

NPS-GSBPP-09-008



NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

**The Evolving Private Military Sector:
A Survey**

5 August 2009

by

Dr. Nicholas Dew, Assistant Professor, and

Lt. Col. Bryan Hudgens, USAF, Lecturer

Graduate School of Business & Public Policy

Naval Postgraduate School

Approved for public release, distribution is unlimited.

Prepared for: Naval Postgraduate School, Monterey, California 93943

**Naval Postgraduate School
Monterey, California**

Daniel T. Oliver
President

Leonard A. Ferrari
Provost

The Acquisition Chair, Graduate School of Business & Public Policy, Naval Postgraduate School supported the funding of the research presented herein. Reproduction of all or part of this report is authorized.

The report was prepared by:

Nicholas Dew, Assistant Professor
Graduate School of Business & Public Policy

Bryan Hudgens, Lecturer
Graduate School of Business & Public Policy

Reviewed by:

William Gates
Dean, Graduate School of Business & Public Policy

Released by:

Karl van Bibber, Ph.D.
Vice President and
Dean of Research

REPORT DOCUMENTATION PAGE			Form approved OMB No 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE 5 August 2009	3. REPORT TYPE AND DATES COVERED 1 October 2007 through 30 September 2008	
4. TITLE AND SUBTITLE The Evolving Private Military Sector: A Survey			5. FUNDING	
6. AUTHOR (S) Nicholas Dew and Bryan Hudgens				
7. PERFORMING ORGANIZATION NAME (S) AND ADDRESS (ES) NAVAL POSTGRADUATE SCHOOL GRADUATE SCHOOL OF BUSINESS AND PUBLIC POLICY 555 DYER ROAD MONTEREY, CA 93943-5103			8. PERFORMING ORGANIZATION REPORT NUMBER NPS-GSBPP-09-008	
9. SPONSORING/MONITORING AGENCY NAME (S) AND ADDRESS (ES)			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution is unlimited			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words.) The purpose of this research is to help the US Department of Defense and other government security communities better understand the evolving private military sector. The body of the report consists of three main parts. These describe the organizational demographics of the sector, the capabilities and activities of firms in the sector, and the public firms in the sector, respectively. In the final section, we discuss some possible interpretations of the data for the evolution of the sector.				
14. SUBJECT TERMS Private military, organizational demographics			15. NUMBER OF PAGES 75	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT: UNCLASSIFIED	18. SECURITY CLASSIFICATION OF THIS PAGE: UNCLASSIFIED	19. SECURITY CLASSIFICATION OF ABSTRACT: UNCLASSIFIED	20. LIMITATION OF ABSTRACT: UU	

NSN 7540-01-280-5800

Standard Form 298 (Rev. 2-89)
Prescribed by ANSI Std Z39-18

THIS PAGE INTENTIONALLY LEFT BLANK

Abstract

The purpose of this research is to help the US Department of Defense and other government security communities better understand the evolving private military sector. The body of the report consists of three main parts. These describe the organizational demographics of the sector, the capabilities and activities of firms in the sector, and the public firms in the sector, respectively. In the final section, we discuss some possible interpretations of the data for the evolution of the sector.

Keywords: Private military, organizational demographics

THIS PAGE INTENTIONALLY LEFT BLANK

Acknowledgements

We would like to thank Jim Greene for his sponsorship of this research. Further thanks go to our students Jared Mitchell, Don Robbins, Chuck Dunar, Ercan Sokman, Yusuf Alabarda, Rafal Lisoweic and Ercan Donmez.

THIS PAGE INTENTIONALLY LEFT BLANK

About the Authors

Nick Dew is an Assistant Professor of Strategic Management at the Naval Postgraduate School, Monterey, CA. His research focuses on entrepreneurial cognition and industry evolution. He has a Ph.D. in management from the University of Virginia and an MBA from the Darden school. Before entering academia, he spent eight years working internationally in the oil industry. His work has been published in several academic journals, including Strategic Management Journal, the Journal of Business Venturing, Entrepreneurship Theory and Practice, the Journal of Economic Behavior and Organization, the Journal of Business Ethics, the Journal of Evolutionary Economics, Industrial and Corporate Change and Organization Studies. Nick has been a recipient of the Louis D. Liskin award for teaching excellence at NPS' business school.

Nick Dew
Assistant Professor
Graduate School of Business and Public Policy
Naval Postgraduate School
Monterey, CA 93943-5197
Tel: (831) 656-3622
E-mail: ndew@nps.edu

Lt Col Bryan Hudgens, USAF is Military Lecturer, the Air Force Acquisition Representative, and the Academic Associate (Program Manager) for the Master of Executive Management program and Air Force Intermediate Development Education program in the Graduate School of Business and Public Policy at the Naval Postgraduate School, Monterey, California. He is a graduate of the Air Force's Basic Developmental Education (Squadron Officer School in-residence) and Intermediate Developmental Education (both in-residence and non-residence) programs. He has presented and published scholarly research in the International Journal of Logistics Management as well as several academic conferences. He holds both Level III Certification in Contracting through the Acquisition Professional Development Program and an Air Force Senior Acquisition Badge.

Lt Col Bryan J. Hudgens, USAF
Military Lecturer
Graduate School of Business and Public Policy
Naval Postgraduate School
Monterey CA 93943-5197
Tel: (831) 656-2039
E-mail: bjhudgen@nps.edu

THIS PAGE INTENTIONALLY LEFT BLANK



NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

**The Evolving Private Military Sector:
A Survey**

5 August 2009

by

Dr. Nicholas Dew, Assistant Professor, and

Lt. Col. Bryan Hudgens, USAF, Lecturer

Graduate School of Business & Public Policy

Naval Postgraduate School

Disclaimer: The views represented in this report are those of the author and do not reflect the official policy position of the Navy, the Department of Defense, or the Federal Government.

THIS PAGE INTENTIONALLY LEFT BLANK

Table of Contents

1.	Introduction	1
2.	Methodology Used and Background to This Study	3
	A. Methodology.....	3
3.	Organizational Demographics of the PM Sector	5
	A. Founding Dates, Population and Industry Growth	5
	B. Geographic Distribution of PMFs.....	8
	C. Founder Background for PMFs	10
	D. Private/Public Split.....	11
4.	Capabilities/Activities Analysis	13
	A. A Starting Point: Singer's Categorization of PMFs	13
	B. Avant's Refinements to Singer's Categorization Scheme: Form Firms to Contracts.....	15
	C. A Further Revised "Tip of the Spear" Analysis: From Firms, to Contracts, to Capabilities.....	16
	D. Capability Analysis	18
	E. Protective and Security Services	21
	F. Training and Advisory Services	22
	G. Support Services	23
	H. Geographic Distribution of Capabilities: Do Different Geographies Have Different Capability Sets?	24
	I. Reprise: Defining and Bounding the PM Sector	25
5.	Publicly Listed Firms Active in the PM Sector	29
	A. Publicly Listed Firms with PM-sector Interests	29
	B. Growth of the PM Sector	32
	C. War Profiteering? Profitability in the Sector	34
	D. EVA (Economic Value Added).....	34
	E. Understanding the Data: Some Thoughts	37

6. Discussion	39
A. Thinking about the PM Sector: Some Building Blocks.....	39
B. Demand-side Story	40
C. The Supply-side Story: Different Pieces Evolving Differently for Different Reasons.....	43
D. So What about the PM Protection Business? What Paradigm Is It Following?	46
List of References.....	53
2003 - 2008 Sponsored Research Topics	57
Initial Distribution List	59

1. Introduction

“Because they remain uncategorized by any formal measure, the exact number of PMFs that have entered the market is difficult to establish and it most definitely remains in constant flux. The global number is estimated to be in the mid-hundreds.” (Singer, 2003, p. 79).

The purpose of this research is to help the US Department of Defense and other government security communities better understand the evolving PM (private military) sector (Avant, 2005; Jager & Kummel, 2007; Singer, 2003). We anticipate our readers will be government agents, members of the international community, and others who wish to make informed decisions regarding the use of PMFs (private military firms). This report discusses one of the first steps in establishing a long-term program of research on the PM sector at NPS. It is expected that knowledge about the sector will be built incrementally through a series of individual studies; no one study will provide a complete picture of the relevant features of the sector. However, we believe a good starting point in this endeavor is to develop quantitative data about the industry, which this report attempts to do. We suggest three reasons why this is an appropriate place to begin.

First, while there are several conceptual and qualitative publications on the sector, there are very few quantitative studies. Therefore, there is an important gap in our knowledge that we propose to fill with rigorous quantitative data.

Second, without even rudimentary quantitative data, we have no way of knowing whether the firms that have been studied as individual cases (such as MPRI and Executive Outcomes) or those firms that have been given significant media attention (such as Blackwater and Halliburton) are typical industry participants or outliers. Thus, our starting point is to ensure that we have a reasonably accurate picture of the sector by compiling quantitative data on it. We need rudimentary data about the industry's size in aggregate (i.e., the demography of firms—cf. Singer's quote above), which major public corporations (such as the prime US defense contractors) are active in the sector and in what capacity, and the major capabilities of firms. Much of the data presented in this report fulfills these needs: it is basic, but

since our collective understanding of the sector is also fairly basic, this information may well be of some utility to readers of this report. As well as giving us a sense of what we think we already know, the data also provides a platform on which further studies can be built; i.e., it provides a context in which future research can be set. To proceed to these more advanced topics, we must first pass through the entry gate; that is, we must ensure that the basic building blocks for comprehension and analysis are in place. We think that at least some of the data we exhibit is new and has—as far as we know—never been presented before.

Third—and perhaps most importantly—while most of our data lends support to already published literature, the process of studying a large data set and attempting to analyze it has brought to light certain discrepancies, inconsistencies and anomalies between the way the sector is sometimes described and the reality of the empirical data. This has led us to attempt our own re-description of the sector in a way that we believe is more congenial to the data we have collected. Two impressions stand out. First, the private military sector is by no means a unitary industry: it actually is an amalgam of several different elements that have independent drivers and are developing along different trajectories. In our analysis, the evolution of the supply-side of the industry is, therefore, rather complex and dynamic. Second, we believe that industry has a richer and more diverse set of demand drivers than is generally acknowledged. In our analysis, the demand factors driving the long-term evolution of the industry involve the private sector, non-governmental organizations (NGOs), non-military government departments, and international organizations. Short-term demand factors are more military-related and involve co-opting a sector that has, in large part, traditionally served other customers.

2. Methodology Used and Background to This Study

A. Methodology

The data used in this report was collected primarily by three NPS MBA students (Jared Mitchell, Don Robbins and Chuck Dunar) working on their thesis project in the fall of 2007 under the supervision of Nick Dew and Bryan Hudgens. The combined faculty and student input into the data collection effort approximates one man-year of work.

Data collection proceeded through three phases. We started by assembling a list of firms known to be active, or to have been active at one time, in the PM sector. We screened various publications about the industry for an initial list of PMFs (for example, Avant, 2005; Singer, 2003). Based on this initial list of names, we assembled further names of firms using a snowball method (Goodman, 1961); i.e., our searches for information on the initial names invariably turned up new firms, which we then added to the list. We kept working on the snowball until we exhausted the search for new names; in other words, further searches did not reveal any new firms. Almost all of this searching was conducted online, using various databases available through the NPS library and public resources available via online search engines. Using this methodology, we assembled a list of 550 firms “named” by one source or another as having been active in the sector.

Second, we found that many firms in the sector have a website which offers information about the organization. Using these and other resources, we assembled more detailed data on the firms in our sample—such as their founding date, founder background information, the firms’ countries of origin, and data on the capabilities these firms purport to have.

Third, one of us gathered follow-up and fill-in data on specific firms in order to write this report.

Further elements leading to the assembly of this report included coding data in our database, analyzing the raw and coded data, and presenting it in easily understood formats. Coding (for instance) of capabilities was conducted by two of us (one student, one author). This process was particularly lengthy and laborious since it involved over 2,500 lines of data on capabilities, many redundant descriptions of capabilities, and much recoding work in order to get the data into a “clean” format. Individual fields were coded independently, and critical variables (such as codings of Singer’s “Tip of the Spear” schema and Avant’s categorization scheme for contract types) were coded by both coders. Though we have not yet measured inter-rater reliability of these codings, we estimate that more than 80% of codings are identical.

The analysis process involved several iterations in order to produce the final charts, graphs and data presented in this report. The final portion of the research process involved both finding ways to display the data in formats that are easy for the reader to understand and writing this report.

The limitations of this study are worth particular attention. For most data categories, the data on PMFs is incomplete. For instance, we managed to find data on the founding dates of approximately 230 firms (approximately 40% of our sample). We obtained data (at least in some rudimentary form) on capabilities for approximately 70% of firms, but the quality of this data (measured in terms of its comprehensiveness and trustworthiness) varies considerably. The bottom line of our data-collection effort is that we can only analyze the data available, doing our best to verify its reasonableness as we go. We cannot attest for the accuracy of some aspects of this data—for example, that the capabilities firms purport to have are “true.” Of course, the accuracy of self-reported data is a problem for researchers generally, and not for our study alone.

However, we do not know of any database on the industry that is more comprehensive than the one we have assembled. As far as we know, the sample size we have used is much larger than any other so far studied in the sector; this

should make our results more robust because of the (generally) favorable statistical properties of large samples.

3. Organizational Demographics of the PM Sector

A. Founding Dates, Population and Industry Growth

For this study, we traced data on 550 firms that appear to have been active in the PM sector. Of these, we were able to find data on the founding dates of approximately 230 firms. As shown in Figure 1, based on this sample of 230 firms, the following pattern of industry entry emerges:

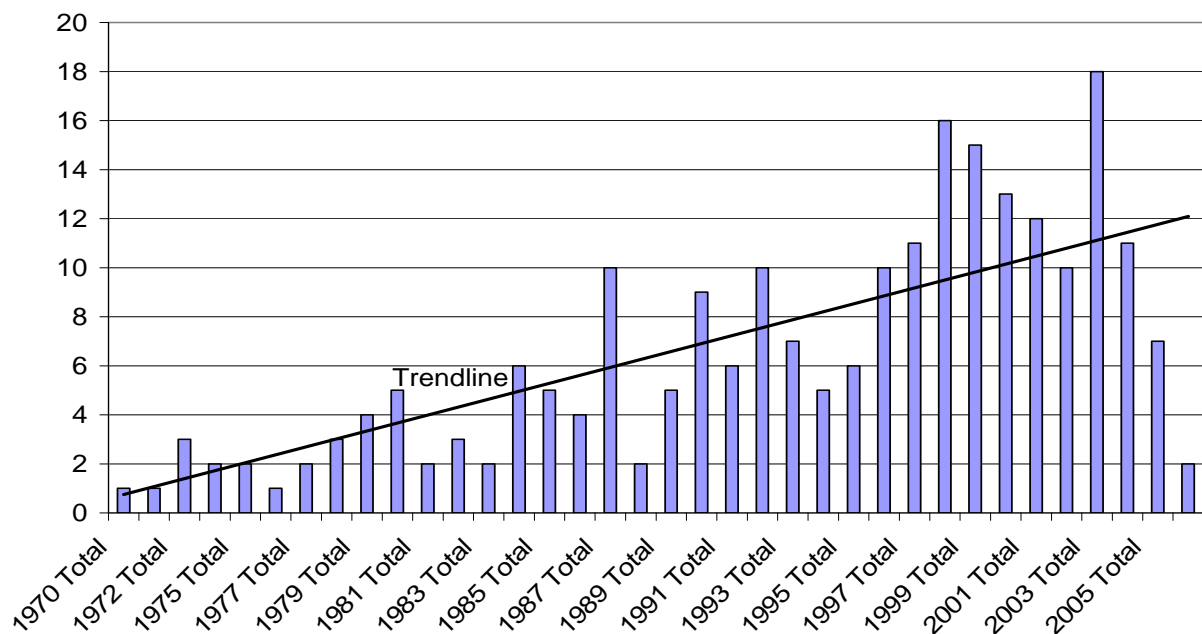


Figure 1. Pattern of PMF Founding by Year, 1970-2006

Further examination of the data indicates that half the firms for which we managed to find founding dates were founded between 1995 and 2007; the other half were founded before 1995. This makes the PM sector a relatively young industry: half the industry is less than 13 years old; the median age of firms is quite low. This fact is an interesting contrast to the history of mercenary companies, which, of course, has very deep roots—stretching back at least until the Early Modern period (15th and 16th Centuries) (Ortiz, 2007a).

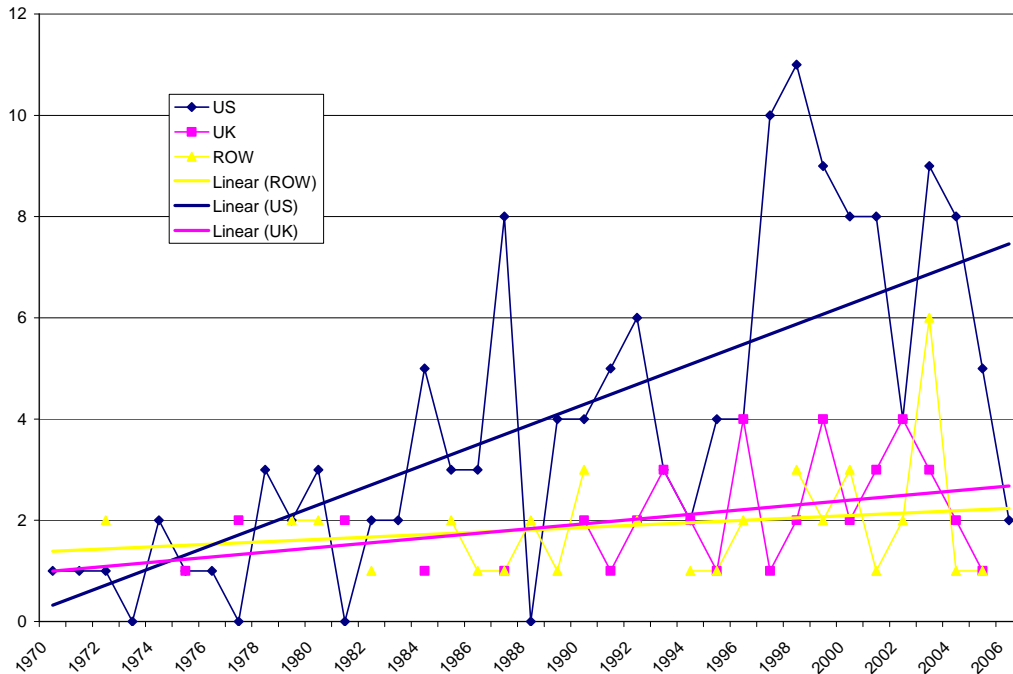


Figure 2. PMF Founding Pattern by Region

Figure 2 suggests that the recent wave of new PMFs is predominantly a US effect. Note in particular the trend lines for firm foundings: the US trend line is rather steep, whereas the UK and ROW (rest of world) trend lines are almost flat. What this trend suggests is that PMF growth is being driven by US effects—such as outsourcing strategy in the late 1990s and the invasion of Iraq in 2003.

One possible way of classifying entry into the PM sector is to categorize it as occurring in different “eras.” as follows:

- **Cold War period (1945-1989)**
 - A quiet period in the industry’s history.
- **Post-Cold War period (1990-2001)**
 - Prevalence of supply-side factors: military drawdown.
 - Demand-side factors include civil wars in Africa and the emergence of outsourcing as a major strategy in the US DoD (Department of Defense).

- **Post-9/11 period (2002-present day)**
 - Prevalence of demand-side factors—surge capacity to support OIF (Operation Iraqi Freedom) and the WoT (War on Terror).

Table 1 indicates data on the average number of firms founded in these eras.

Table 1. Summary of PMF Foundings in Three Different “Eras”

	SUM	YEARS	AVG
PRE-1990	99	45	4
1990-2001	120	12	10
2002-2006	48	5	10

If we examine this data graphically, we observe a different picture of the trends in PMF founding (note the trend lines are generally quite flat in Figure 3). Now we can see that the surge in PMFs is a consistent feature of the post-Cold War era that is driven by new US firms entering the sector. This means that the sector growth is not a post-9/11 phenomenon (as is commonly thought), but a post-Cold War phenomenon.

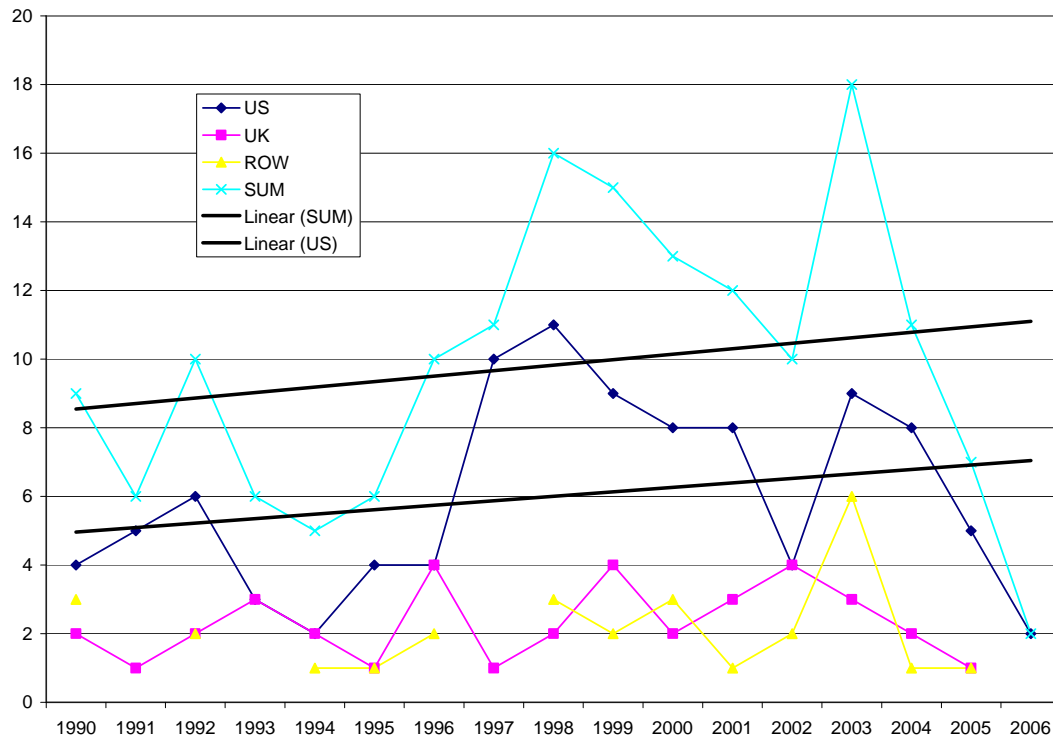


Figure 3. PMF Foundings, 1990-2006

B. Geographic Distribution of PMFs

We found it comparatively simple to retrieve data on the nationality of PMFs. We found data for over 500 firms (90%) of our population. Note that our data is very consistent with the IPOA's (International Peace Operations Association) surveys (2006 and 2007) that were based on much smaller samples.

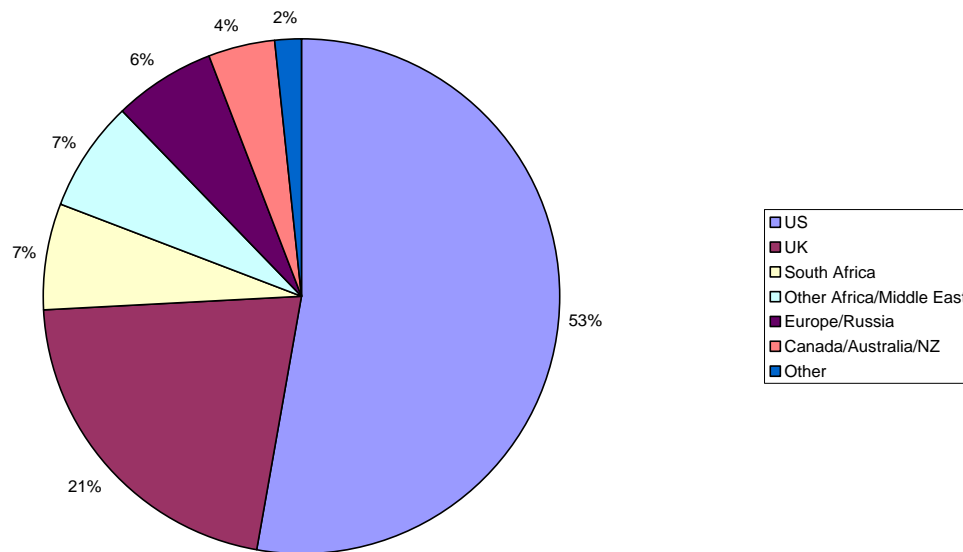


Figure 4. Geographical Distribution of PMFs

As is evidenced in Figure 4, the industry is a 50% US and 20% UK phenomenon. However, this was probably not always so. The tremendous growth in the number of US firms entering the industry in the past 10 years (see Figure 2) has probably changed the international composition of the industry. Prior to the burst of US entry, the industry was probably more cosmopolitan in its composition.

Several factors might explain this international distribution. One factor might be outsourcing and privatization, which may make PMFs more prevalent in the US and UK. Another factor may be demand factors—i.e., the need for surge capacity for the US and UK to meet their commitments in Iraq, Afghanistan and to the WoT (War on Terror). A further factor may come from the supply-side—i.e., a distinct geographical pattern governing the distribution of skills required for establishing PMFs. This requires the *combination* of specialist military/security skills and generalist entrepreneurial skills. These may be more prevalent in the US and UK. Lastly, we have not yet tested this distribution for correlation with more general factors, such as defense spending in these particular geographies (PMFs per \$ billion defense spend), population (PMFs per million), or economic scale (PMFs per

\$ billion GDP). Future research might endeavor to explore these and other possible relationships.

C. Founder Background for PMFs

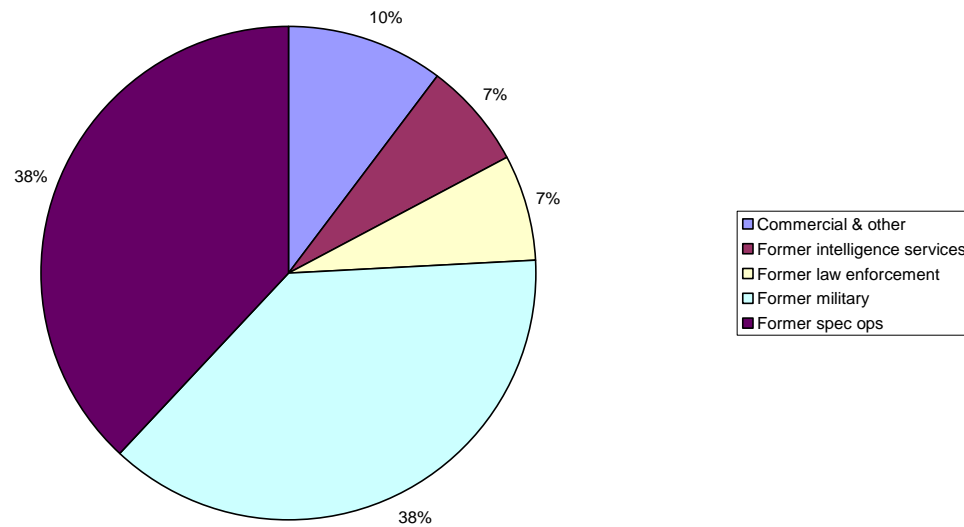


Figure 5. PMF Founder Backgrounds
(based on data on 116 firms)

Figure 5 presents the data we managed to collect on founder characteristics for 116 PMFs (approximately 20% of our sample). What this reveals is initially unsurprising: most PMFs are founded by individual entrepreneurs or entrepreneurial teams that have prior military experience. However, the proportion of firms founded by individuals with special operations experience is a surprise—almost 40% of firms were founded by individuals with this background.

One possible explanation for this result is that our sample is skewed: perhaps firms founded by individuals with special operations experience are more likely to “tout” their qualifications. Other possibilities include both demand-side and supply-side factors. On the demand-side, perhaps special operations skill sets are in particularly high demand in the PM sector, or perhaps these activities are seen as particularly good or easy targets for contracting-out.

On the supply side, one again wonders about the combination of skills required for running a successful PMF: perhaps individuals with entrepreneurial tendencies are more likely to select into special operations domains, or perhaps special operations experience tends to nurture particular organizational skills and self-confidence that lead individuals to participate in an entrepreneurial endeavor.

Based on our initial analysis, founder characteristics would make a good topic for future research on the PM sector.

D. Private/Public Split

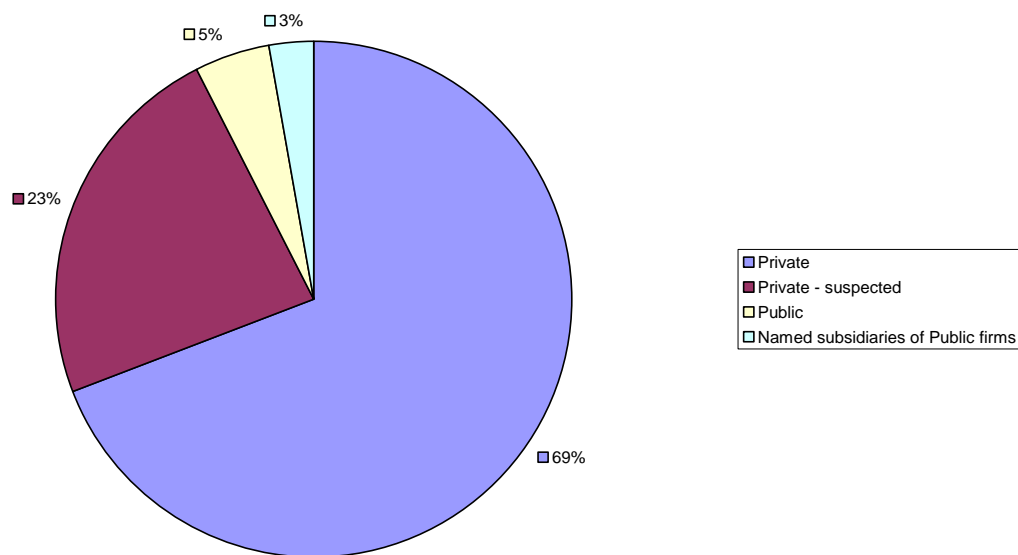


Figure 6. Public-private: PMF Status

Data we gathered indicates that well over 90% of the firms in the PM sector are privately held (see Figure 6). Only a few firms (25) active in the sector are publicly held. This number is based on a generous definition of the industry and, therefore, includes the major defense contractors (the “primes”) and many firms that mainly supply IS/IT-related products and services to the DoD and other security agencies worldwide. The number of “pure play” public PMFs is, in fact, very low: only two firms in our sample meet this definition (DynCorp and ArmourGroup). In Chapter 5 of this report, we will analyze public firms in the sector in more detail.

One important issue inherent in this analysis is the lack of transparency in the industry; this flaw is frequently highlighted by critics. PM sector firms are perceived to be rather secretive (Avant, 2005). Our data points to the fact that there are two elements involved in this secrecy:

- First, private firms generally lack transparency to outsiders, regardless of their industry. Some of this is a systematic side-effect of being private, not the result of deliberate policy. After all, they are not required to be transparent, and they have no reason to be. If most PMFs are private, then one would expect the industry to lack transparency, regardless of its activity type.
- Second, PMFs have other legitimacy-related concerns and sometimes security-related reasons for shying away from the public eye. Thus, their privacy, opaqueness, ambiguity and general lack of transparency may be a deliberate strategy. This element is over-and-above what is common to all private firms.

A second issue brought to light by our data is that it seems rather unlikely that the PM sector will ever emerge as a significant aspect of the so-called military-industrial-complex. The sector's organization is quite dissimilar from that of equipment manufacturers; unlike the manufacturing sector, the PM sector simply does not have the economies of scale that have driven a concentration of large players (the "primes"). Instead, the industry is highly dispersed—i.e., populated by firms that are generally quite small compared to those in the defense-equipment sector.

4. Capabilities/Activities Analysis

Our database contains 2,500 lines of data on the capabilities/activities of 395 PMFs. The comprehensiveness of this data varies by firm; but as a starting point, we believe it is a useful approximation of what firms in the sector do. To help analyze the data, we began with the categorizations provided in the literature on the PM sector, i.e., Singer (2003) and Avant (2005).

A. A Starting Point: Singer's Categorization of PMFs

One popular device that emerged from Singer's (2003) book on the PM sector is the "tip of the spear" analysis. Singer used this tool to help analyze the industry and then used case studies of particular firms in different places on the spear to illustrate the analysis in more depth. For instance, he posed EO (Executive Outcomes) as the quintessential "Military Provider Firm," MPRI as an example in the "Military Consultant Firm" category, and KBR as an example of a "Military Support Firm." See the Figure 7 for a reproduction of Singer's diagram:

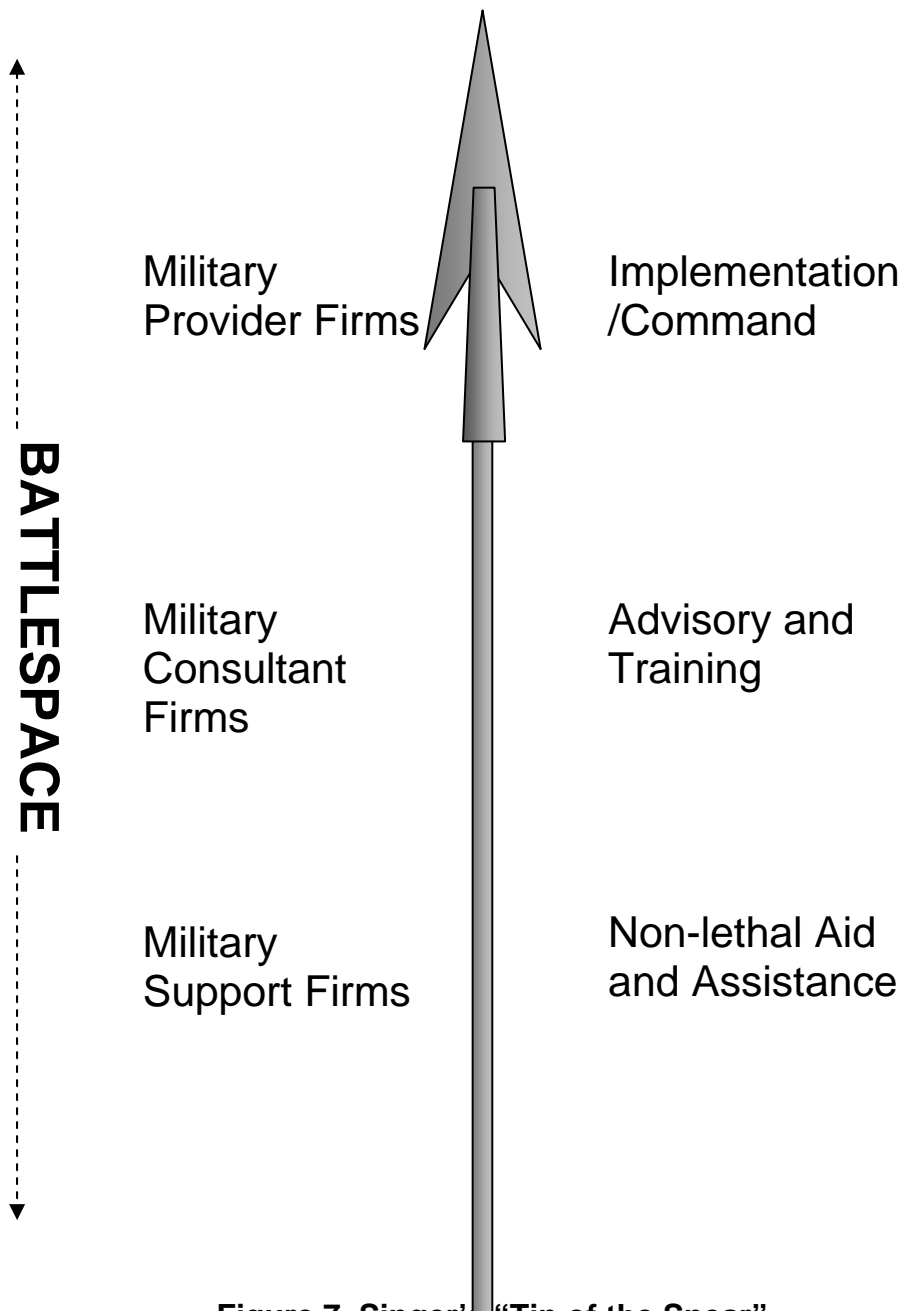


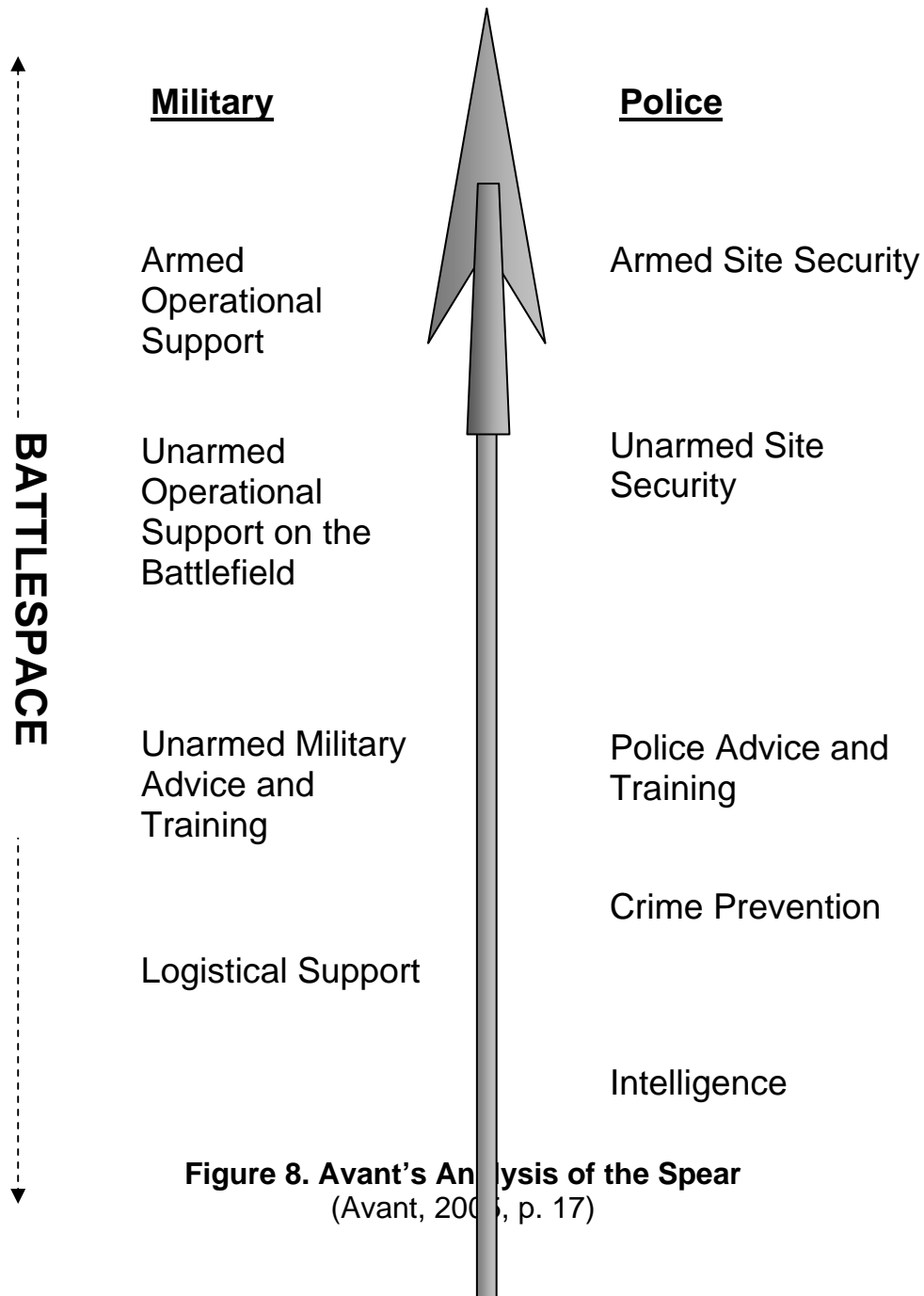
Figure 7. Singer's "Tip of the Spear"
(Singer, 2003, p. 93)

B. Avant's Refinements to Singer's Categorization Scheme: From Firms to Contracts

Deborah Avant (2005) proposed a slightly different approach to the analysis Singer provided. She found that it was difficult to classify individual firms using Singer's typology because many firms are diversified, offering a variety of services that appear in different places on the spear; e.g., Blackwater provides close protection, offers firearms training, has a parachuting training team and produces an armored vehicle, among its activities). Moreover, Avant found that firms move around the spear, offering different services to different buyers at different points in time. For these reasons, Avant proposed that *contracts* are a better tool for analyzing the sector. She categorized contracts according to five types, as follows:

- Operational support
- Site/Personal Security
- Military Advice and Training
- Crime Prevention/Intelligence
- Logistical Support

Avant then showed how these contract types incorporate into the "tip of the spear" analysis Singer has popularized, as follows in Figure 8:



C. A Further Revised "Tip of the Spear" Analysis: From Firms, to Contracts, to Capabilities

Singer's analysis focused on firms; Avant's analysis focused on contracts. In what follows, we offer an extension of these analyses that focuses on capabilities. This analysis is premised on the observation that firms are not only diversified and

move around the spear, but that they will continue to be/do both. In other words, an analysis of what tasks firms *have been* performing over time does not capture firms' *potential* movement around the spear. There is an even broader scope of latent activity. One way to investigate this latent potential is to collect data on the capabilities firms claim they have. The following section focuses on these capability sets.

Capabilities are important because underlying contracts (transactions in the marketplace) are firm-level capabilities. The concept of capabilities is widely used for analysis in the strategic management literature because it focuses on the building blocks for activities that are present in a firm (and, therefore, an industry sector). Firms distinguish themselves by their capabilities—firms are able to get contracts others cannot access because they can either do things other firms cannot do, or they can do them at a lower cost than their competitors. Therefore, in strategic management, capabilities are often thought of as crucial underlying variables that explain the relative performance of firms (Barney, 1991; Teece, Pisano & Shuen, 1997).

Based on our attempts to cluster the approximately 2,500 individual capabilities in our data set, a rather different image of the “tip of the spear” emerged. By our analysis, the spear is much more heterogeneous than either Singer or Avant's analysis suggests. The key result of our analysis of individual capabilities is that the PM sector is by no means unitary. In fact, it is made up of quite different sub-sectors, which are probably better thought of as a patchwork quilt than as elements up and down the spear. This is particularly true for the category “Military support firms,” which contains a smorgasbord of sub-sectors. These sub-sectors are essentially unrelated to one another in terms of the underlying capabilities required to support contracts in any particular area. This means that the firms competing for contracts in these sub-sectors tend to come from very different industries (for instance, some services are “add-ons” provided by major defense contractors; meanwhile, other services are provided by firms with capabilities that are largely undifferentiated from civilian/commercial skill sets, such as logistics or

many IS/IT security activities). This finding led us to present a revised “tip of the spear” diagram, displayed in Figure 9 below (in the figure, the individual elements are not sized or ordered to represent the data, but merely to convey an overall image of the sector).

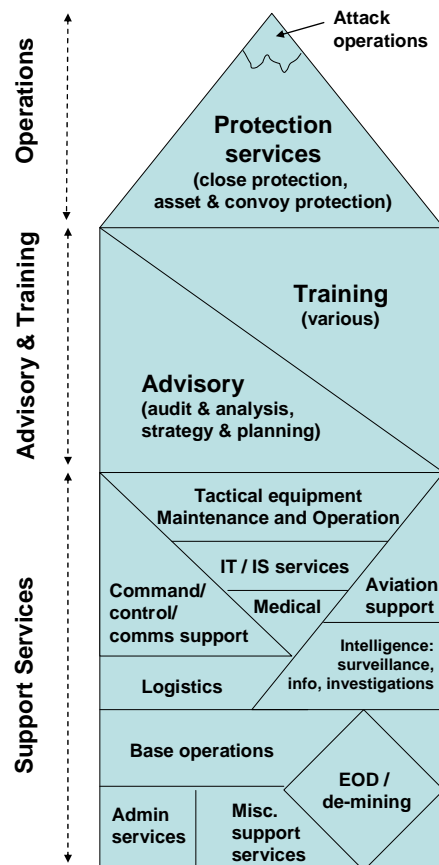


Figure 9. Revised “Tip of the Spear”

D. Capability Analysis

As illustrated in Figure 10, our data suggests that approximately half of the firms in our sample of 395 are engaged in some kind of protective and security services; 75% do advisory and training work, and almost 90% are engaged in some kind of support services (variously defined). This data points clearly to the

intermingling of service provisions up and down the spear that Avant and Singer (and others) have used to describe the sector:

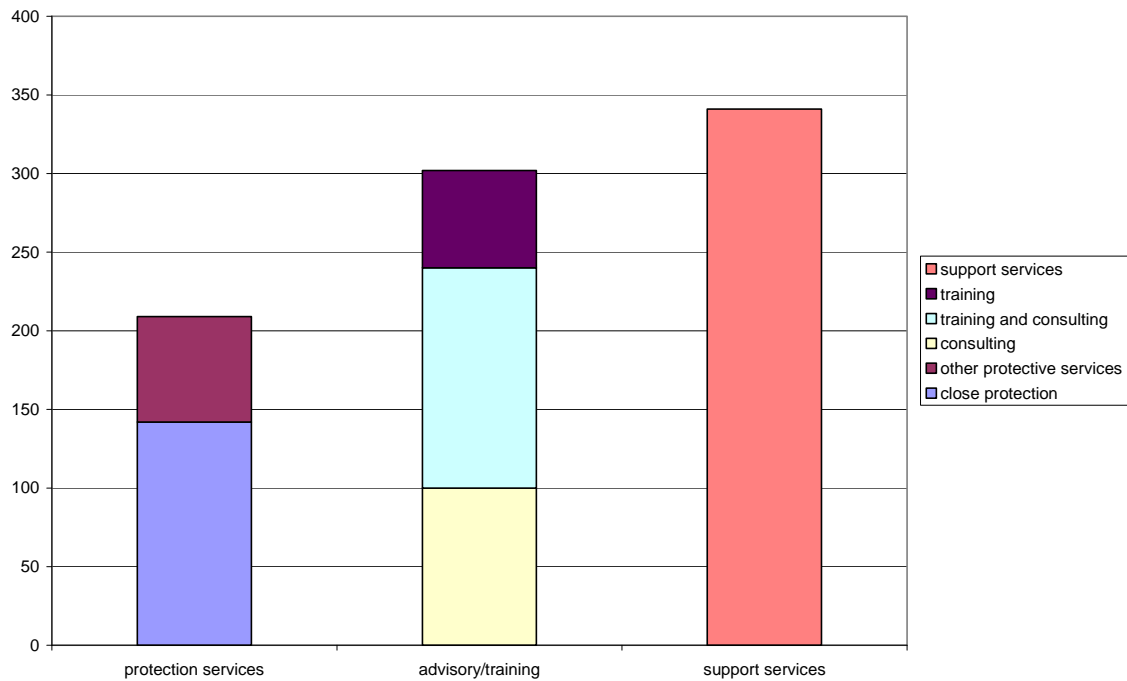


Figure 10. PMF Activity Summary
(number of active firms)

For the exact percentages, see Table 2 below:

Table 2. Proportions of PMFs Active in PM Sub-sectors

	% of Firms Active (Sample 395)
Protection Services	53%
Advisory/Training	76%
Support Services	86%

As found in Figure 11, another way to display this data is as proportions of the spear—i.e., to examine the number of firms active in different sub-sectors of the PM sector:

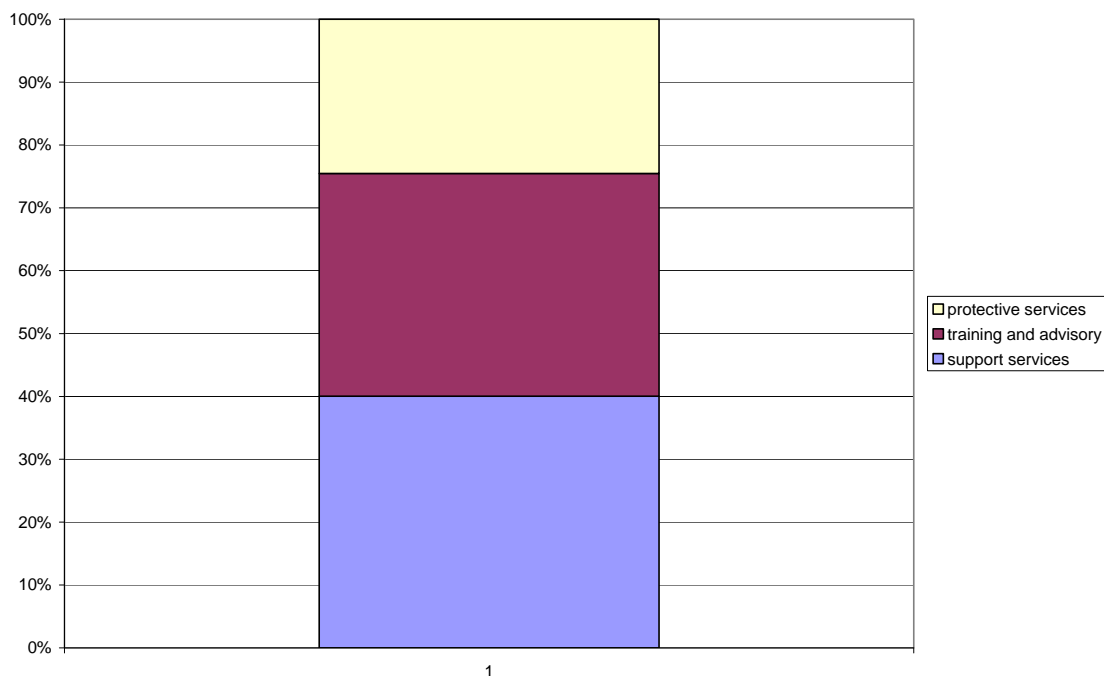


Figure 11. Number of PMFs Active in Different Sub-sectors

Viewed this way, about 25% of the different activities occurring in the sector can be classed as protective services, 35% as training and advisory, and 40% (almost half) as support services of various kinds.

Overall, we think this data will alarm some observers and satisfy others. Some people will be alarmed to find out that there are around 200 firms offering military competencies of various kinds for sale in the marketplace. From this perspective, it is rather worrisome that there is an industry that specializes in fielding various kinds of (private) mini-armies to the highest bidder. Others will find this fact reassuring rather than worrisome—for them, a significant number of firms means competition, which means efficiency.

E. Protective and Security Services

We conducted further analysis of the content of each PM sub-sector. Results for the protective services segment are provided in Figure 12 below:

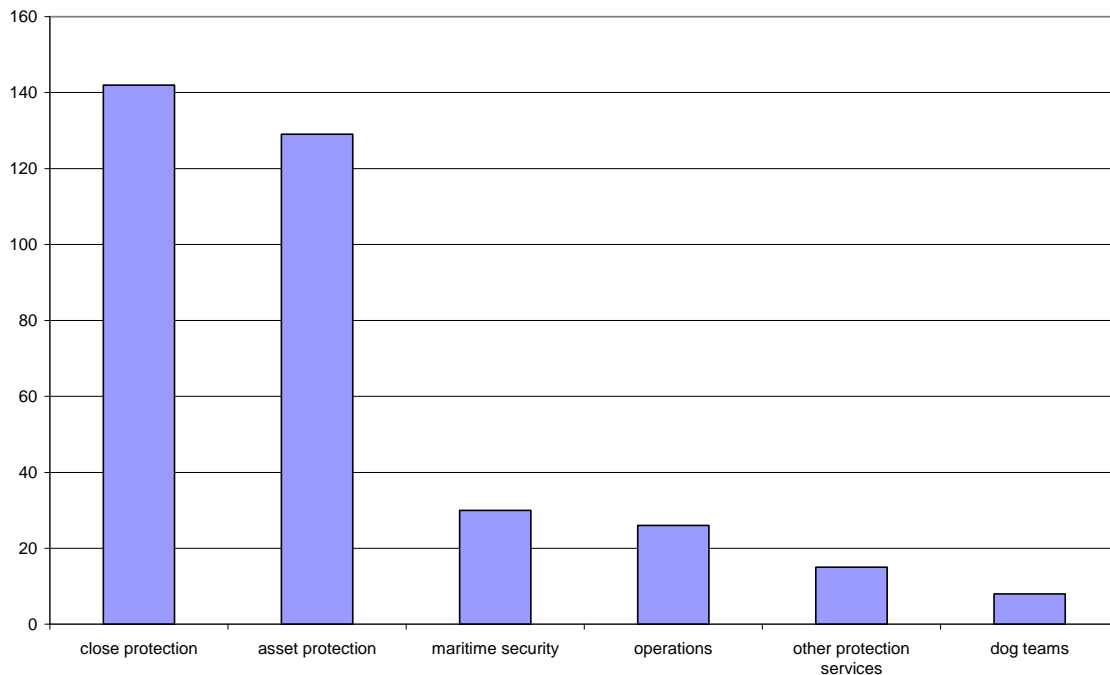


Figure 12. PMFs Engaged in Protective Services
(209 total)

This data indicates that about 2/3 of the firms active in the provision of protective services are involved in close protection of individuals and assets, i.e., stationary guarding and convoy protection. When an individual thinks of private military and security contractors, this is probably what comes to mind. Our data indicates that this role, indeed, is the mainstay of the protective services business.

However, there are other protective services activities. About 30 firms are known to be active or capable of providing protective services for marine assets. A similar number of firms have capabilities for conducting a variety of operations. The kinds of services listed in the database include assault capabilities, rapid reaction forces, and special operations units. A variety of miscellaneous services were also mentioned, as well as the provision of dog teams by a handful of firms.

F. Training and Advisory Services

Most firms that offer advisory (consulting) services also offer training services; indeed, there is considerable overlap between these services, as indicated in Figure 13:

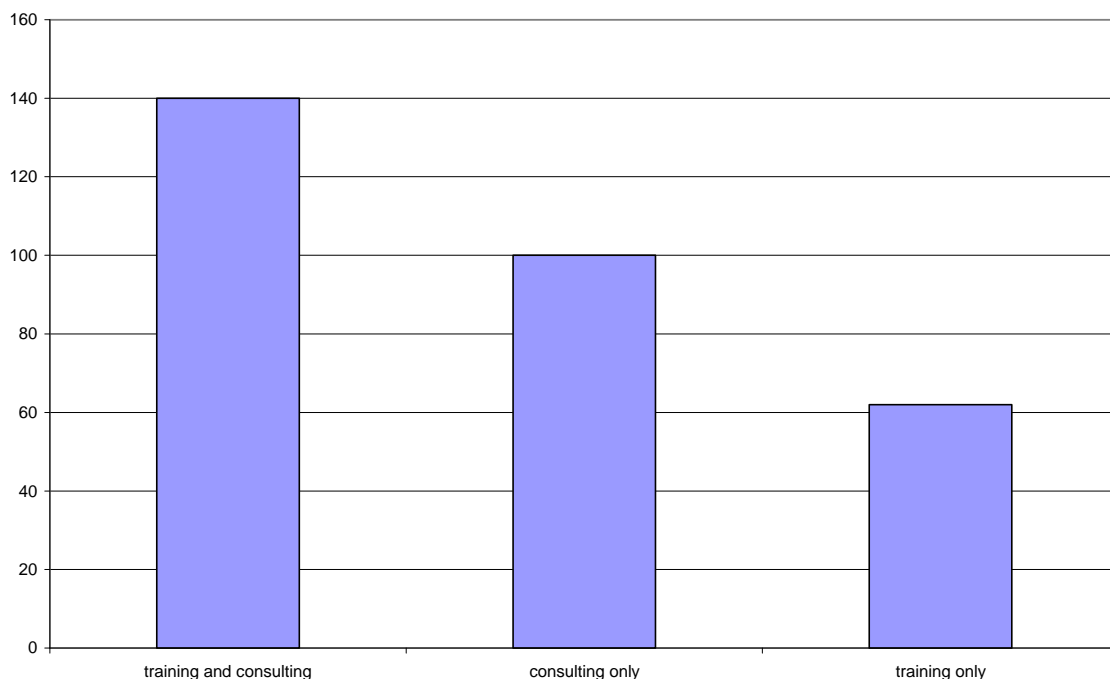


Figure 13. PMFs Engaged in Training and Advisory Activities
(240 firms)

There is a wide range of advisory/consulting services. Among these are risk/threat analysis, counter terrorism and current tactics. However, we found that a very diverse range of advisory capabilities are offered in the marketplace. This suggests that—globally, at least—this sector is quite well-developed and comprehensive in its offerings.

The same is true for training; our data indicates a very diverse range of training services are offered by firms—options too numerous to list. According to our data, approximately 200 firms are active in the training market to some degree or another.

G. Support Services

Based on our earlier analysis (the results of which are displayed in Figure 9), it was apparent that diversity is also a hallmark of the support services offered in the PM sector. However, some services are more widely available than others, as indicated in Figure 14 below:

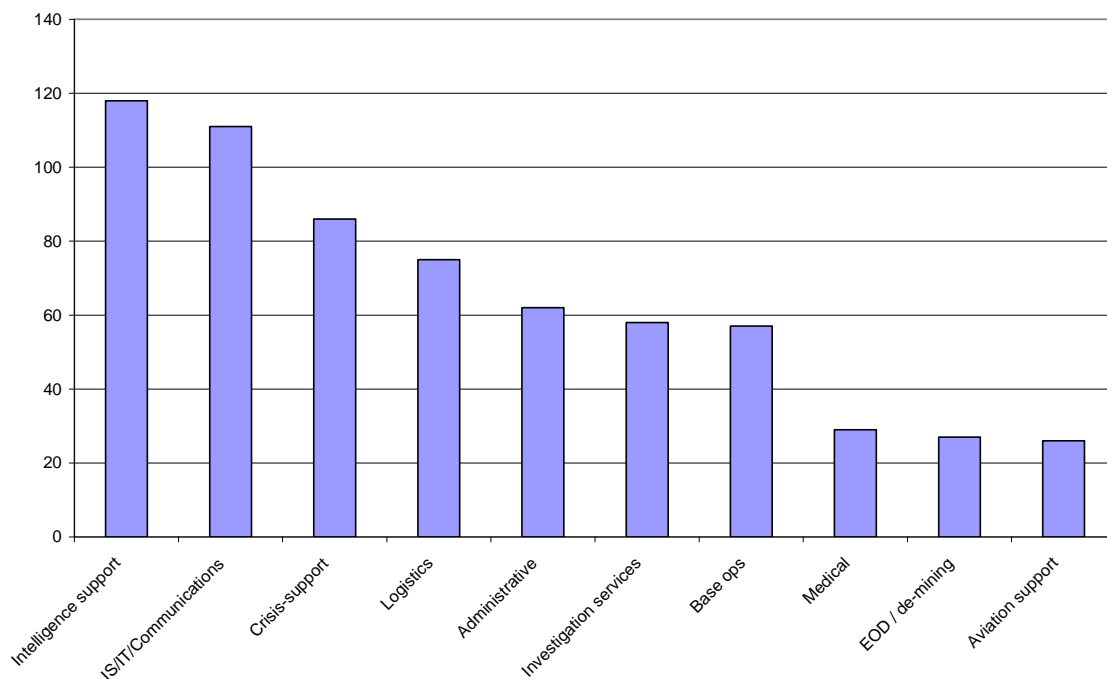


Figure 14. PMFs Offering Support Services
(data from 335 firms)

Two pieces of data seemingly jump out of Figure 14. First, consistent with Avant's analysis of contracts, intelligence support services are widely available in the sector. This category includes a range of services such as surveillance, intelligence analysis, various counter measures, and information gathering. The number of firms active in this service area indicates that significant competition exists. The second most available service is IS/IT/Communications. Again, the provision of these

services appears to be highly competitive, with many firms offering a diverse range of activities in the marketplace.

H. Geographic Distribution of Capabilities: Do Different Geographies Have Different Capability Sets?

Are some geographies “tippier” than others? Do some regions have a preponderance of consulting or support services? Based on our data, the following patterns emerged:

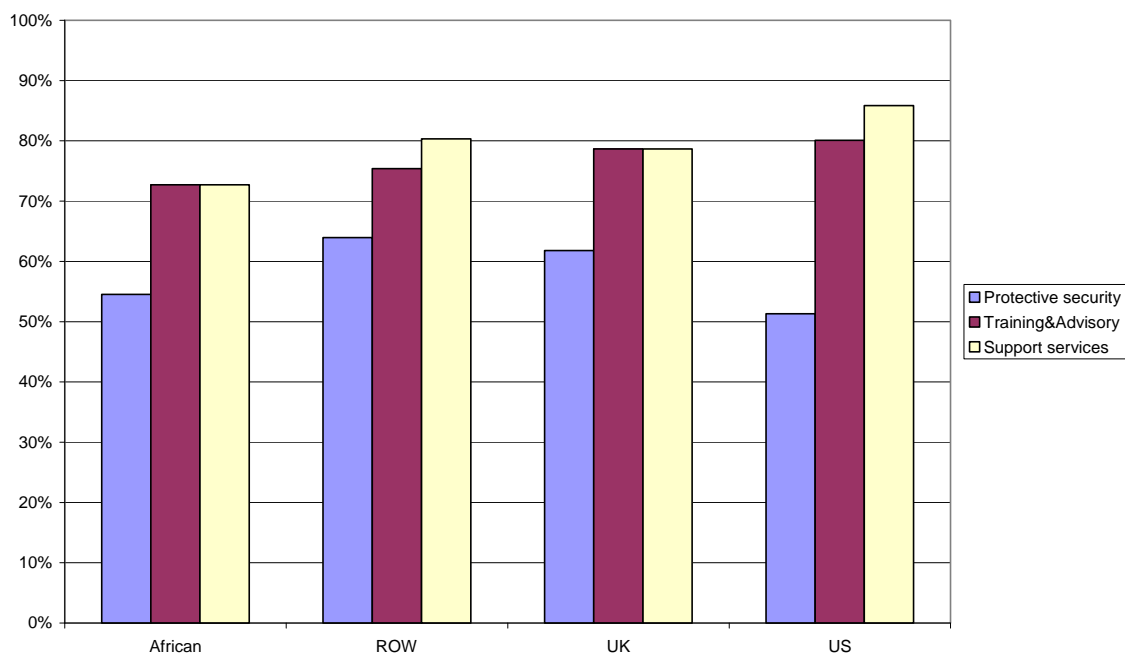


Figure 15. Regional Capabilities Distribution
(% of firms offering services in sub-sectors)

When examining this data, we must remember first that the chart shows percentages, not absolute numbers of each geographic region’s firms active in each capability. This is important because approximately half the industry is based in the US, and this fact would otherwise distort the data.

The pattern that emerges in Figure 15 is that US firms are slightly more likely to be involved in support services and slightly less likely to be involved in protection services. However, overall, there is little difference between regions when the

service mix is analyzed at this level. Of course, the service mix might show a geographic bias in narrower capability segments. We have not yet studied this data.

Two observations might be worth noting when we investigate the data on capabilities this way. First, by moving to this lower unit of analysis (i.e., a lower unit of analysis than whole firms), we are able to examine clusters of capabilities (for instance, across different geographies) while temporarily ignoring firms. In principle, this might be a reasonable analytical strategy; it is well known that most firms recruit to fill contracts from databases on individuals, and that these individuals typically appear on the databases of more than one firm (Singer, 2003). Therefore, what might be important is the availability of these individuals and their capabilities to groups of firms, rather than what individual firms do. In other words, firms might merely be “shells” that hide underlying capability sets that are important at the national and regional level, rather than at the firm level.

Second, the overall similarity of the industry across geographic regions points somewhat to the international nature of the business. While there is significant variation in the specific offerings of individual firms, in general about 50% of firms offer protective services; this is true globally—regardless of a firm's national origins. The geographic proportions hold steady for training/advisory services and support services.

I. Reprise: Defining and Bounding the PM Sector

An analysis of PMF capabilities invariably leads us back to the question of what (and who) belongs inside the sector (Oritz, 2007b). In conducting our survey, we initially used a generous definition of firms active within the PM sector in some form or another. But clearly, the definition of “sector” and “participant” is important here. Figure 16 summarizes the various ways we think the sector might be defined:

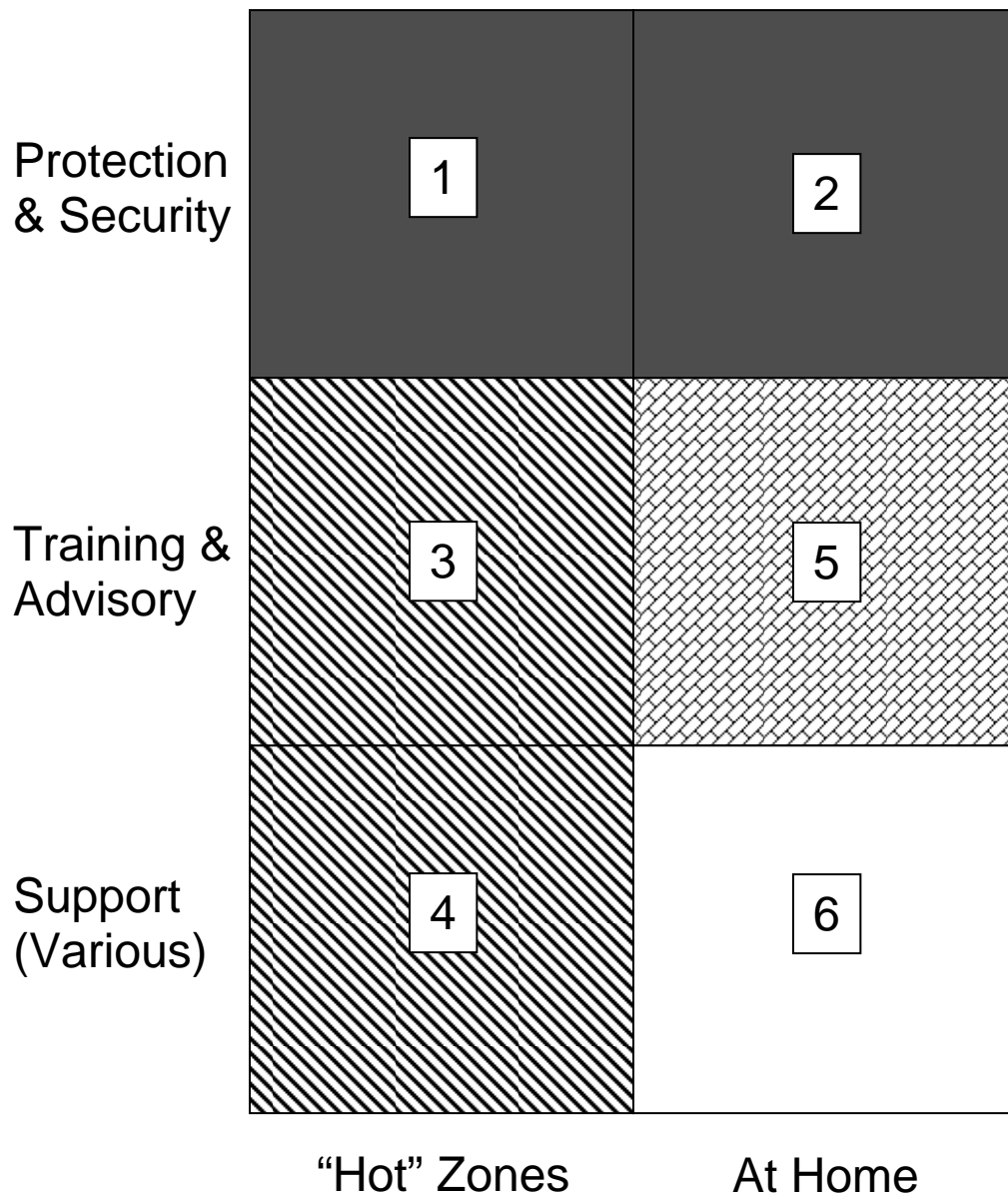


Figure 16. Defining the PM Sector

In this diagram, the vertical axis explains what activity is taking place. The activities are arrayed according to Singer's "tip of the spear" heuristic. The horizontal axis illustrates where activities are occurring—either in hot zones (how hot of course varies) or at home (i.e., some other safe location).

The most restrictive definition of the "industry" would focus on Segments 1 and 2 in this figure. The 2006 IPOA survey used this restrictive definition of the sector—referring to firms engaged in armed security operations, which yielded a

sample of 100 firms. In its report on PMFs, Human Rights First (2008, p. 1) used a similar definition, explaining that:

There is no universal, agreed definition of the term “private security contractor” [...] Human Rights First uses here an essentially functional definition of the term in light of the actual activities of such contractors fielded in Iraq and Afghanistan with a basic security mission—that is, a core mission to protect people (other than themselves) or things, to include guarding government (and contractors) facilities, protecting government personnel (and other government contractors) and United Nations (U.N.) and other international organization staff as well, and providing security for convoys.

However, in its 2007 follow-on report, the IPOA broadened its survey to include an identified sample of 334 firms. While we can’t be completely sure of the Institute’s criteria for inclusion in its sample, we suspect that it reflects Segments 1 and 2 in the diagram above, plus Segments 3 and 4, and possibly some firms in Segment 5.

The two problem zones (or “gray areas”) in analyzing the PM sector are Segments 5 and 6. Some elements of Sector 5 fall more easily inside the parameters we believe most analysts would agree define the PM sector. For instance, Blackwater’s North Carolina training range, which includes various weapons ranges, is sometimes touted as the best in the world for some types of military training. Many aspects of MPRI’s advisement activities would also clearly fall in this segment. However, where should we classify activities such as Cubic’s virtual training systems? Should we include firms such as Cubic in the PM sector, or exclude it? We think there are arguments on both sides.

Even more problematic is Segment 6 in the diagram. There are two issues here. First, we often cannot tell where the activities of support firms take place based on third party reports about the industry or declarations by the firms themselves. Second, there is the question of whether the activities themselves belong inside the industry. IS/IT/communications firms are particularly troublesome in this regard. Let’s examine, for example, CACI. It is a major provider of support services to the DoD and for the intelligence communities. Or, we could study

Mantech. It builds and maintains databases that track potential terrorists and provides a range of other IT-related support services to the intelligence communities. If these services are largely performed at home, should we define them as inside the PM sector? And what about the services themselves—the things these firms do certainly appear to be a very different kind of business than DynCorp and ArmorGroup. They are involved in non-traditional types of “warfare.” However, according to some arguments, if these types of activities reflect the way conflict is evolving into the future, firms like CACI and Mantech are—arguably—critical precursors of a new wave of private defense-sector firms. Should they be included in our sample of the PM sector, or left out?

It is important to note that in reporting on PM-sector demographics, we used an expansive definition of the industry: we included all the segments above. In part, this is because our aim was to capture a comprehensive list of firms and activities. The purpose of our report is to inform the DoD acquisition community about the range of firms active in the industry, rather than to identify firms that are central industry participants. Hence, we developed a list of 550 firms that have participated in the industry. We believe this doesn’t bias our analysis in any particular way; however, we feel readers should be aware of our sampling technique.

5. Publicly Listed Firms Active in the PM Sector

A. Publicly Listed Firms with PM-sector Interests

In this section of the paper, we'll discuss publicly listed firms that are active in the PM sector. Figure 17 illustrates some of the PM-sector activities of well-known public firms:

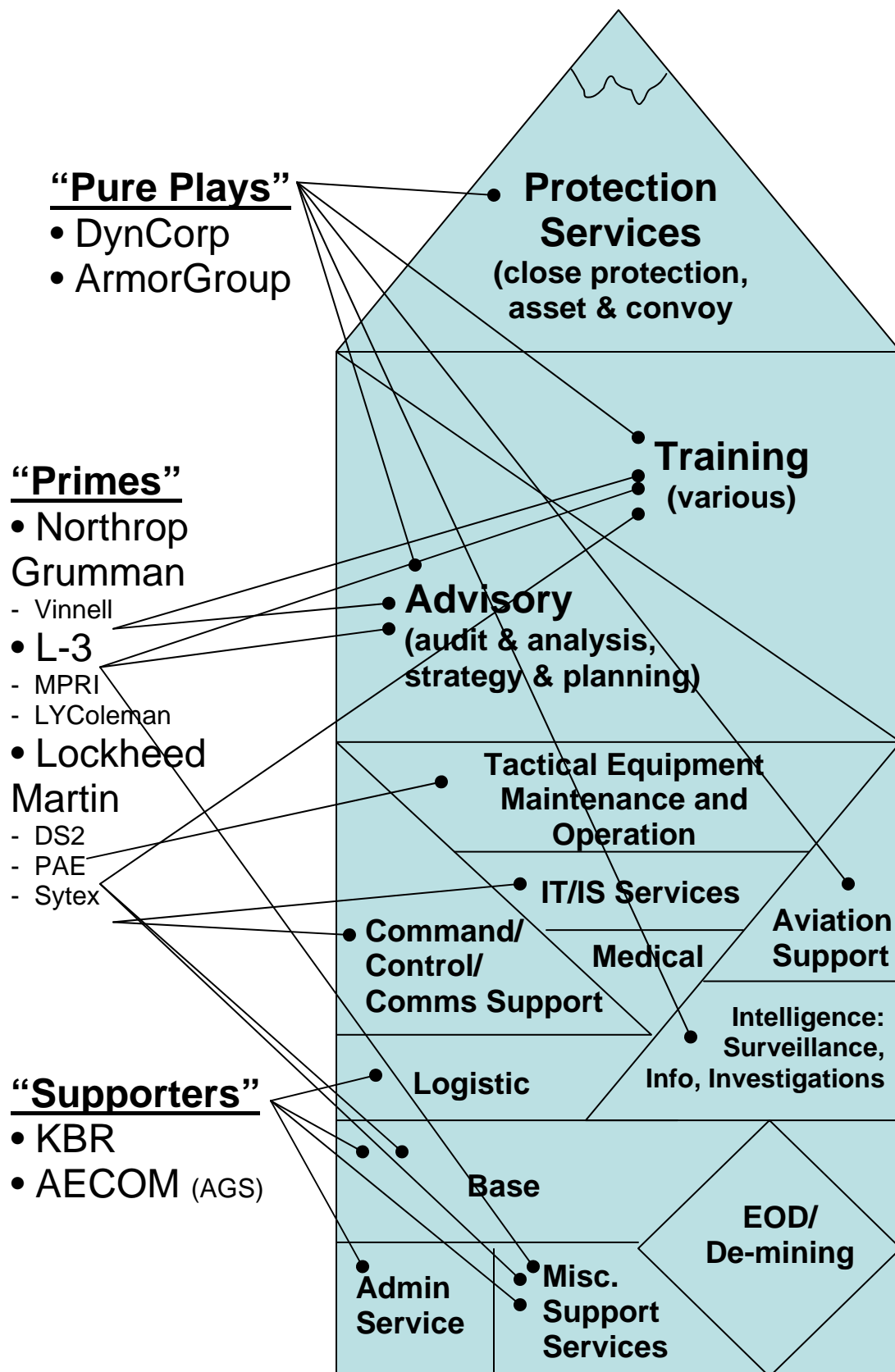


Figure 17. Publicly Listed Firms Active in the PM Sector

When we examined public firms in the sector, we began by asking, “In which firms would we invest if we wanted to create an investment portfolio that was significantly exposed to the PM sector?” For the purposes of this report, we sorted through an initial list of 25 candidate firms. We had two main criteria for eliminating firms:

- First, we eliminated those that were not significantly exposed to the sector. For instance, Lockheed Martin has been aggressively expanding in the service side of defense by recently acquiring PAE (Pacific Architects and Engineers, a KBR competitor in base operations, as well as provider of other services to the State Department) and Sytex (an IS/IT support firm that establishes remote surveillance bases for the Air Force, for instance). It also is a joint-venture partner in a major maintenance service supplier, DS2 (Defense Support Services). However, Lockheed’s PM-related businesses are a small part of its overall revenues. For instance, Sytex and PAE together probably account for only 2% of LM’s revenues. By comparison, KBR generates well over half its revenues in the PM sector. Therefore, we excluded firms like Lockheed because its financial data are poor indicators of its involvement in the PM sector. By the same rationale, we eliminated firms such as AECOM (whose AGS division runs Camp Doha in Kuwait) and L-3 Communications (with its well-known MPRI division).
- Second, we eliminated firms that—as far as we know—are mainly active in Segments 5 and 6 of Figure 16; i.e., their services are predominantly undertaken at home in training and advisory and support activities. This led us to eliminate an important group of publicly listed IS/IT/communications providers to the defense and intelligence communities, such as SAIC, CACI and Mantech. It also led us to eliminate firms such as Cubic (which provides training services), DeticaDFI (a boutique consultancy that counts the Joint Chiefs and the OSD among its clients), and URS, whose E.G. & G. Services division supports DoD weapon systems and training needs.

This left us with a small group of firms that are the “pure plays” of the PM sector. Their names will not come as any surprise to people familiar with the sector:

1. DynCorp—sometimes described as the world’s premier “police for hire” firm. It is a major contractor to the State department for close-protection services and police training in Iraq.
2. ArmourGroup—formerly DSL, was IPO’d in 2004 on the London Stock Exchange. It is a DynCorp competitor for many training and close-protection contracts.

3. KBR—was IPO'd in 2006 after many years as a division of Halliburton. It is one of the DoD's main support contractors for logistics, base operations and administration in Iraq and elsewhere. More than half its revenues are derived from its LOGCAP contracts alone.

Figure 18 shows one measure of size and activity in the sector: 2006 revenues (last year for which complete information is available as of this writing):

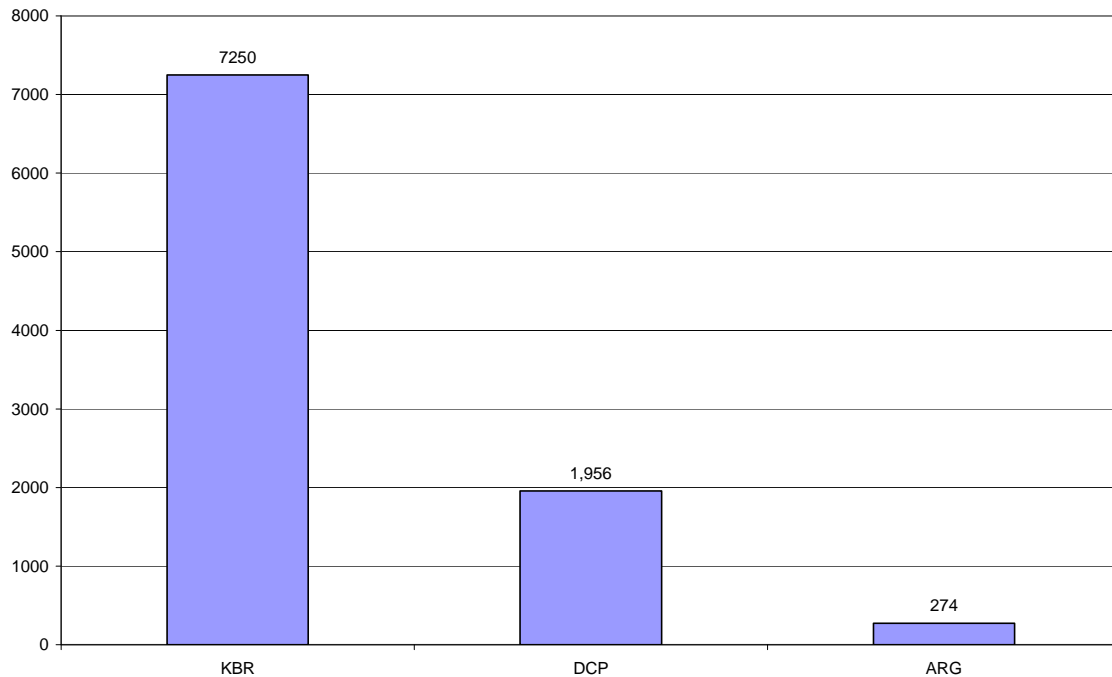


Figure 18. PM Sector Revenues
(2006; \$ million)

Next we analyze these firms to see what we might be able to learn about trends in the PM sector.

B. Growth of the PM Sector

There is conflicting data about the size and growth of the PM sector in recent years. Here, we display data on the compound annual growth in revenues for our three firms. If we assume these firms are typical, then this represents one way of generating a data-driven perspective on the growth of the sector.

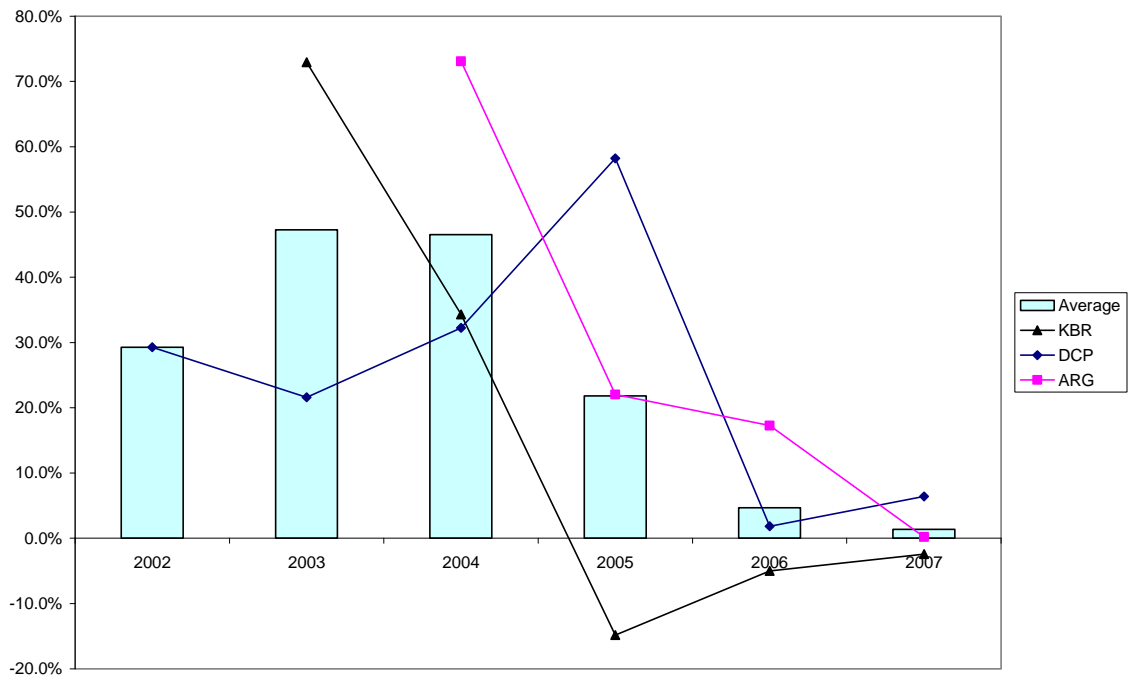


Figure 19. Revenue Growth Year-on-year (%)

Figure 19 illustrates the dramatic growth in revenues during the 2002-2004 period. Even these enormous expansions of activity may understate the actual expansion going on in the industry. For instance, ArmorGroup, in its 2004 annual report, suggested that industry revenues doubled between 2003 and 2004.

C. War Profiteering? Profitability in the Sector

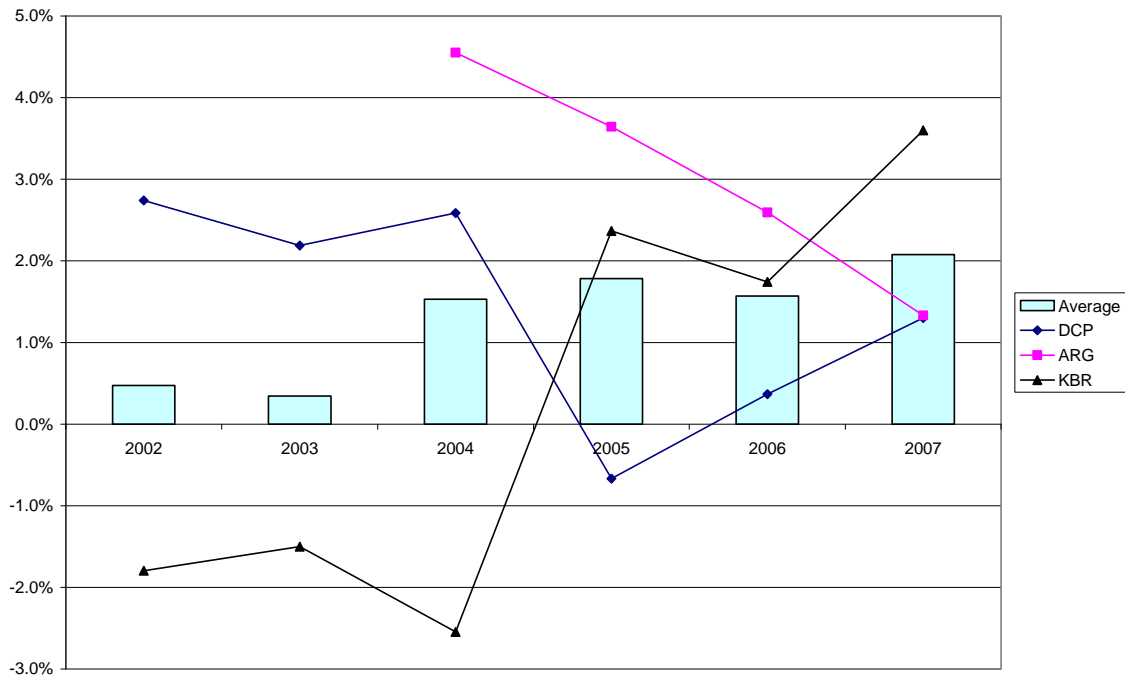


Figure 20. Net Profit Margin (%)

As illustrated in Figure 10, one concern that observers—even seemingly sympathetic ones such as Singer (2003)—invariably raise about PMFs is their profitability. There is a strong suspicion that PMFs engage in war profiteering. Based on the data we collected from SEC filings and the audited annual reports of firms, we believe claims of profiteering are hard to justify. The average net profit margin of KBR, DynCorp and ArmorGroup (2002-2007) was just 1.3% (calculated as net income after tax divided by revenues). This number is low by most comparisons. For instance, in 2006, these firms averaged 1.6%. In the same year, 15 defense and aerospace firms appeared in the *Fortune 500*: their average net profit on sales was 5.2% (this data includes the prime US defense contractors). The *Fortune 100* averaged 7.4% in 2006 (Fortune, 2007).

D. EVA (Economic Value Added)

To further examine the issue of profitability, we analyzed DynCorp, KBR and ArmorGroup using a popular measure of value creation: EVA (economic value added). The basic idea of EVA is that it allows you to calculate the “true” economic

profit of a firm. In principle, EVA measures how much value a firm creates over and above its opportunity cost of capital invested. The idea is that firms must cover both their operating costs and their capital costs in order to create any real value. The basic calculation for EVA is as follows:

Revenues	
less	Operating Expenses
less	Taxes
less	Capital Charges (Invested Capital x Cost of Capital)
=	EVA

The results of our EVA calculations are displayed in Table 3 (below). The table shows that the break-even cost of capital (that generates an EVA of zero) for the three firms is 6.6%. Again, this is low. What it means is that if the *actual* cost of capital for our three firms were anything higher than 6.6%, they would be value destroyers, not value creators. It seems likely that the applicable costs of capital would be higher than 6.6%; this is a low cost of capital even for highly reliable industrial sectors, let alone PMFs.

Note: Readers are reminded that EVA, like all economic indicators, is sensitive to assumptions. The tricky number to calculate is Invested Capital because several different methodologies exist for this calculation. Except for invested capital for KBR, the data in Table 3 can be derived fairly straightforwardly from publicly available sources. We assumed 50% of KBR's invested capital is attributable to its Government and Infrastructure division (KBR, 2006, p. 105). This assumption is conservative in the sense that it probably makes KBR's EVA look better than it really is. More aggressive assumptions would increase KBR's break-even cost of capital.

Table 3. EVA (Economic Value Added)

Operating income pre-tax and financing	2004	2005	2006	Average
ARG	17	12	11	
DCP	102	101	114	
KBR	82	332	201	
Income tax rate				
ARG	31%	30%	26%	
DCP	38%	41%	43%	
KBR	15%	47%	32%	
Total assets				
ARG	87	119	127	
DCP	1148	1239	1363	
KBR	2744	2591	2704	
Accounts payable and other current liabilities				
ARG	16	17	21	
DCP	224	243	332	
KBR	749	770	729	
NOPAT (net operating profit after tax) (CALC)				
ARG	12	9	8	
DCP	63	60	64	
KBR	70	175	137	
Invested capital (Total assets—AP and OCL) (CALC)				
ARG	71	102	106	
DCP	924	996	1031	
KBR	1994	1821	1975	
Capital charge				6.6%
Capital charges (Invested capital x capital charge)				
ARG	-5	-7	-7	
DCP	-61	-66	-68	
KBR	-132	-121	-131	
EVA (CALC)				
ARG	7	2	1	10
DCP	2	-6	-4	-8
KBR	-62	55	6	-1
3 Firms' Average EVA				0

E. Understanding the Data: Some Thoughts

When we think about firms in the PM sector, our implicit assumptions can easily mislead us into thinking that firms are likely to be highly profitable. After all, in many locations the work is risky, and the reward for risk is profit, right? Yet, the performance of the publicly listed firms analyzed here indicates that perhaps the sector is not as profitable as we might expect. Why not?

To understand why it may be that our “pure plays” in the PM sector have low margins and negative EVA, we need to make two analytical moves. First, we need to analyze firms not as entities; instead, we need to decompose firms into stakeholders. Second, we need to analyze firm profitability as the result of a two-stage game in which the first stage involves how firms manage to generate organizational rents; the second stage examines how much of that rent is appropriated by inside stakeholders—i.e., employees (Coff, 1999). For an illustration of this argument, see Figure 21 below.

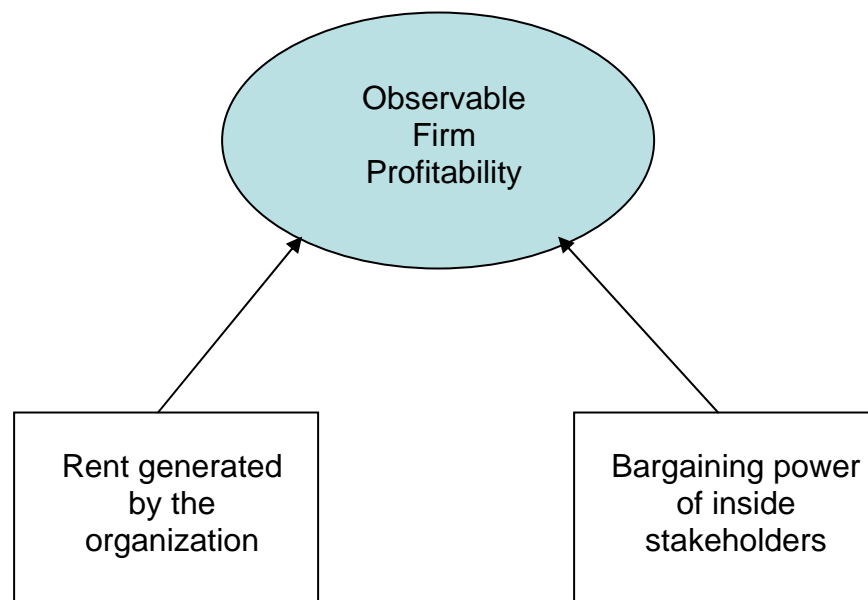


Figure 21. Profit Observed in Firm Performance

The first stage of the game is generating rents from contract awards. Here, we can mislead ourselves by making the erroneous assumption that just because the work is often dangerous not many people want to do it. In fact, competition for

contracts appears to be very high. In its 2007 Interim report, ArmorGroup remarked on competitive conditions in the sector, saying that many of its competitors were willing to bid for contracts at prices that, it felt, left no margin for making a profit. It appears that buyers have substantial bargaining power relative to suppliers: they are large and concentrated; they award contracts typically in large chunks; and they have a large amount of information about supplier costs (some of which is generated by contract mechanisms that encourage cost transparency, such as cost-plus contracts).

The second stage of the game is rent appropriation. Stakeholders compete directly for the rents organizations manage to generate. Outside stakeholders are stockholders and suppliers. Inside stakeholders are employees and management. Profits accrue to stockholders, but even highly competitive organizations are not necessarily profitable: everything depends on how much of the rent generated by an organization is appropriated by inside stakeholders, such as employees and management. Therefore, even when firms manage to secure contracts at favorable rates, these contracts don't necessarily yield profits. According to Coff (1999), employees' ability to appropriate rent depends on three factors that drive employee bargaining power: the scarcity of their skills, their access to information, and their ability to organize collectively. Particularly in the PM sector, firms depend heavily on the human capital of their employees. In addition, information about "going rates" for contractors is widely available—in part because firms typically fill contracts the same way that temp agencies fill them (using a database of individuals). If we observed these factors alone, it would be reasonable for us to assume that employees have strong bargaining power compared to PMFs.

However, in the PM sector, we must add another factor to the mix: risk. Who bears the risk of doing business in the sector? While clearly stockholders bear some financial risks, the employees who fill the contracts clearly bear enormous personal safety risk. Data on contractor deaths in Iraq alone confirms this. Therefore, the sharing of risk-bearing in the PM sector follows a somewhat different pattern than typical commercial ventures. Unsurprisingly, this means that much of the rent

generated by firms is probably being appropriated by individual employees, leaving slim profit margins for the firms themselves.

6. Discussion

A. Thinking about the PM Sector: Some Building Blocks

What we predict about the future depends to some degree on how we think about the past and how we conceptualize the present. For a summary of this point, see Figure 22 below.

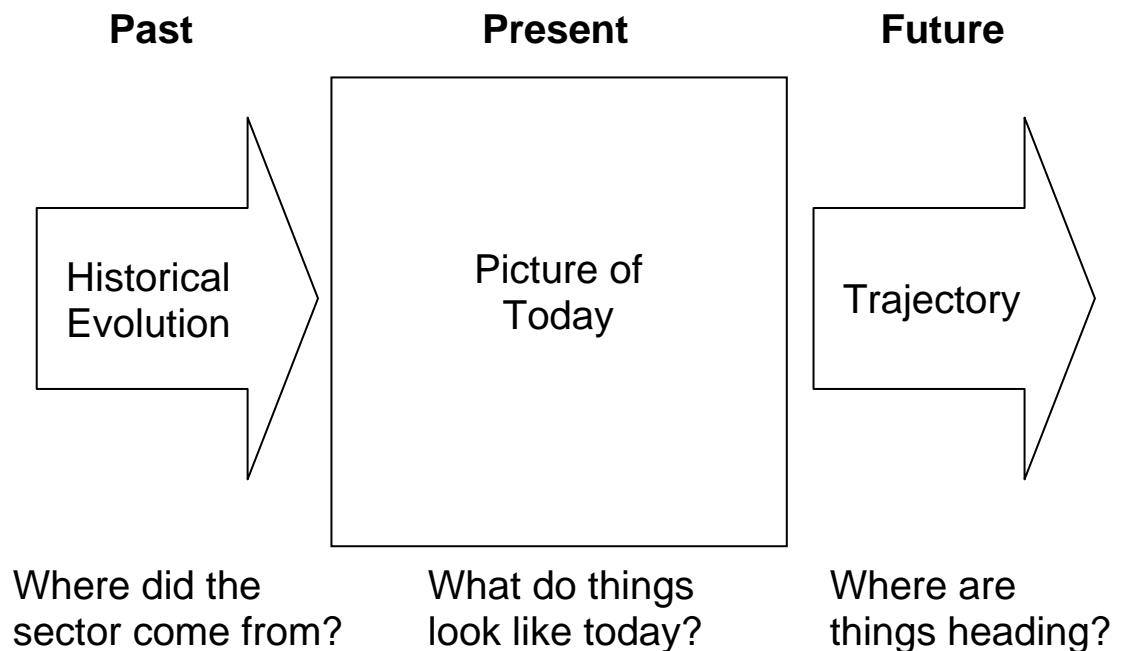


Figure 22. Past, Present, Future

In what follows, we will split our analysis into two parts for simplicity:

1. Understanding the evolution of demand-side factors in the PM sector, and
2. Understanding the evolution of supply-side factors in the PM sector.

These are stories that have been told before—there are already widely held assumptions about where the PM sector came from and about what factors caused

its development (see several essays in Jager & Kummel, 2007, for example). Here, we are going to tell the story somewhat differently.

B. Demand-side Story

Our starting point for the demand-side story is that a richer, more complex, set of factors are at work than has been generally recognized. In particular, our conjecture is that the short-term contingencies that have generally caught analysts' attention mask a set of longer-term trends that have been at work in shaping the sector and that—we think—are going to continue to affect the evolution of demand-side factors for the foreseeable future. Importantly, these trends have emerged not from the defense/government sector but from the private and non-government sectors.

First, for evidence on the importance of multi-sector demand for PM services, consider the following data (Figure 23) collected in a survey of the industry by the IPOA (2007).

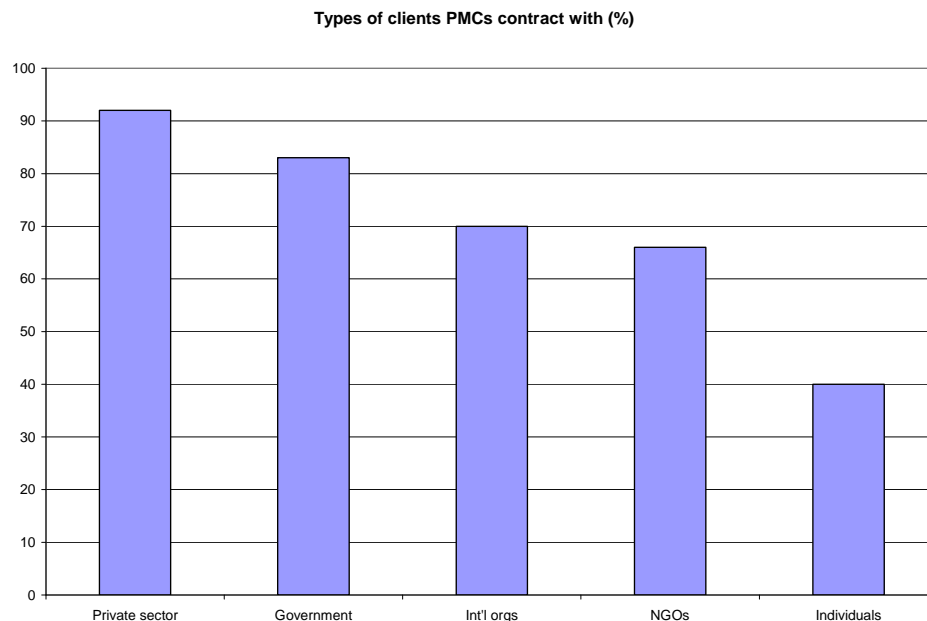


Figure 23. Reproduction of IPOA Report
(2007, p. 21, Chart 5.1)

PMFs invariably deal with private-sector customers as well as government ones, with international organizations, NGOs (non-governmental organizations), and some private individuals. Absent Iraq, the biggest part of their business would probably be with the private sector (for example, protecting assets in mineral extraction industries, such as BP oil's facilities in Colombia and Algeria). In other words, before Iraq, most PMFs were probably doing more of their business with the private sector, not the public sector. This gives us important clues about long-term sources of demand for PM services.

Starting with this analysis of the organizational sources of demand, we traced back these elements to their sources. The picture that emerges attenuates some of our existing notions about the sources of demand for PM services, broadly conceived. For a summary of our analysis, see Figure 24 below. We highlight the following elements of the figure in more detail, as follows:

- Permanently “failing” states. As highlighted by Collier's recent book “The Bottom Billion” (Collier, 2007), there is a cadre of approximately 60 nations in the world in which approximately a billion people live mostly in extreme poverty. These countries include states that the World Bank classifies as “fragile.” Collier—a noted scholar—terms them as “Africa +.” While the majority of these countries are in Africa, the set also includes countries such as Laos and Cambodia, Burma and North Korea, and several central Asian countries. These states have both low GDP (gross national product) and little, no, or negative GDP growth over the past 25 years. Collier says they are caught in one (or more) of four “traps”: conflict/civil war, natural resource dependencies, poor government, or being landlocked with bad neighbors.
- Rising wealth. Giving is on the rise (Clinton, 2007). In fact, the world has probably never seen as much altruism as exists in today's societies—an effect we trace to rising wealth in the developed western economies. Moreover, the giving business is well organized in terms of getting money from donors, political lobbying of other organizations and governments, and management of the distribution of resources to projects and recipients. Private giving is being channeled heavily into projects to help solve the problems of the bottom billion of humankind (e.g., medical and famine relief in Africa).

- Natural resource dependencies. Natural resource extraction industries are frequent employers of PMFs (Drohan, 2004). There is a reason for this. Politically attractive areas have had their natural resource deposits extensively searched in the past century. Having exhausted these areas, big firms in the extractive industries are increasingly finding that they now have to venture into less hospitable political climates in order to find big natural resource deposits that are efficient to extract—the so-called “elephant” resources: for example, giant oil fields in Chad (Tertzakian, 2007).
- Normative policy paradigms. Both the private sector and government sector have been significantly shaped by changes in policy paradigms ushered in by Thatcher and Reagan in the 1980s (Hall, 1993). The privatization movement of the past 25 years has led to considerable decentralization of activities once organized in government bureaucracies, including military and security-related activities (Ortiz, 2007b, p. 56).

If one traces these four elements forward (as in Figure 24), they lead to a boom in demand for private security services, often in the “failing states.” Why in these areas? Because these are precisely the places where governments cannot (in any realistic sense) guarantee the security of individuals; hence, individuals have to make their own security arrangements. NGOs, international organizations, extractive industries and some western government agencies are driven to do work in these countries for a variety of reasons and, when they get there, they have to at least supplement local security arrangements in order to bring security up to standards their employees find acceptable (Avant, 2007). If not, these organizations cannot carry out their work in these places.

Moreover, we expect that these demand-side trends will continue. Collier’s (2007) major point about the bottom billion is that these countries are not just in trouble—they are trapped; i.e., they have little hope of pulling themselves up by their own bootstraps. If this is indeed the case, we expect demand for PM services in these places will persist and grow—that is, if the western world pours more resources into attempts to “fix” these countries.

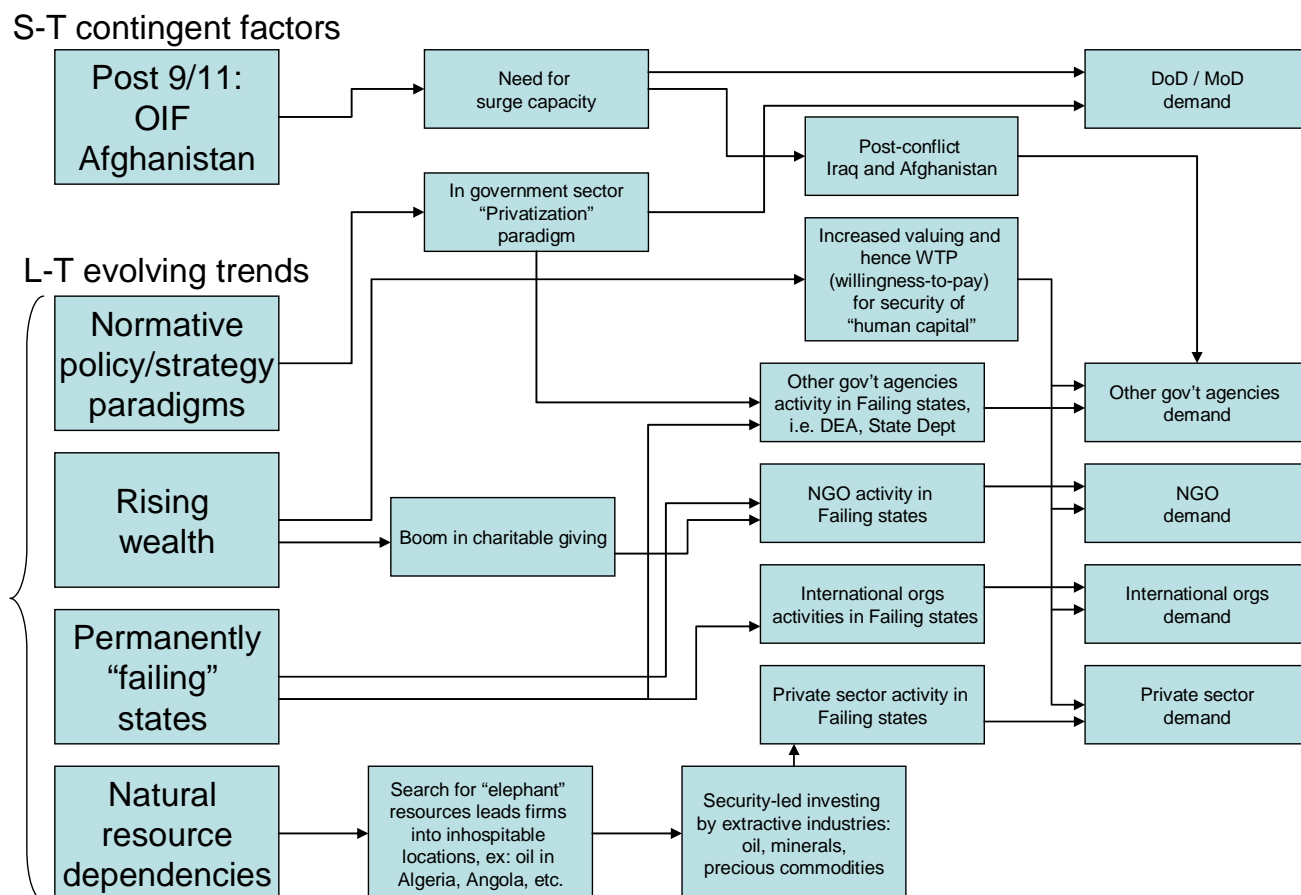


Figure 24. Evolution of Demand-side Factors at Work in the PM Sector

C. The Supply-side Story: Different Pieces Evolving Differently for Different Reasons

Based on our earlier analysis of the “tip of the spear” typology, we feel the PM sector is by no means unitary—in fact, it is made up of quite different elements. These elements have very different evolutionary trajectories. Seeing them together is nothing more than seeing a contingent cluster of activities that happens to be aptly described as the “PM sector” at this particular point in time. In fact, these different pieces of the sector have different drivers that have caused them to emerge as we see them today. For example:

- Logistics outsourcing. The underlying drivers for logistics outsourcing (e.g., KBR Logcap) are gains from trade/economic efficiency; i.e., local civilian labor is substituted for US military labor.
- Operation and maintenance support for tactical equipment. The drivers for outsourcing operation and maintenance support for tactical equipment (e.g., DS2's contracts for keeping Bradley fighting vehicles and Apache helicopters moving) is technical complexity, which necessitates highly trained/specialized labor services needed to support the operation of these platforms in the field. The evolution of this sector is driven by the continual "up-skilling" of technicians and investments in co-specialized support equipment needed to do the work.
- EOD/de-mining. The evolution of this sub-sector has a different dynamic. In his thesis work, NPS student Ercan Donmez (2007) traced the complex evolution of this field—which has been driven by a variety of public pressures, interest group activity and inter-organizational collaborations. Since the late 1980s, a paradigm has emerged under which de-mining activity generally takes place around the world, and its drivers are far different from drivers of evolution in, for example, the support of tactical equipment or logistics outsourcing.
- Other sub-sectors. Of course, we could extend this analysis further by examining the evolution of the following additional elements of the PM sector highlighted in our earlier analysis of the "tip of the spear":
 - Training
 - Advisory
 - Engineering and construction
 - IT/IS security services
 - Intelligence services: surveillance, information gathering, investigations
 - Base operations
 - Medical
 - Etc.

If we examined each of these sub-sectors in turn, we would find that each individual segment of the PM sector has its own evolutionary dynamics. Each can be thought of as having a paradigmatic character, and the particular factors driving

the pace and style of evolution in these sub-sectors tend to have their own unique attributes that make each one different from the evolution of other sub-sectors of PM activity. For instance, the rapid pace of recent changes in technology has probably had quite a different effect on surveillance and information gathering than it has had on advisory activities.

1. A (Very) Brief Detour into Paradigms

Fundamentally, our remarks in this part of the report are based on the concept of “paradigms” originally described in Thomas Kuhn’s work on the evolution of science (Kuhn, 1962). Since then, Kuhn’s work has been extended so many different directions that it would be impossible to recount them all. For our purposes, what is important is to realize that the concept of paradigms has heavily influenced thinking about how industries evolve. There is a large body of academic work on this topic (key among which are Dosi (1982) and Mokyr (1990); see also Geroski (2003) for a very accessible account). The basic argument in this literature is that industries evolve in ways that are remarkable—similar to how Kuhn described the evolution of scientific research programs. This theory can be summarized as follows:

1. What is a paradigm? It can be thought of as an evolving artifact that is being developed and improved, such as a scientific discipline (physics), a technology, a product or service (integrated circuits, automobiles, package delivery), or a field of activity or practice (such as an industry, or military specialization such as undersea warfare).
2. Fundamentally, paradigms tell people how to think about the artifact in question: they are the “lens” or “frame” or “recipe” that is used in the activity. Therefore, paradigms define how people approach normal problem-solving activity in an industry. This has sometimes been referred to as the notion of “industry recipes” (Spender, 1989). They define the know-how, equipment, procedures and experience which are accumulated in an industry. They define the heuristics that people use (e.g., Where do we go from here? Where should we search? What sort of knowledge should we draw on?) to effect changes on the evolving artifact. Therefore, individuals working within a paradigm inhabit a particular “worldview” (Kuhn, 1962).

3. One of the key ideas Kuhn's text highlights is that, once established, paradigms have a "life of their own"; i.e.; they display a momentum of their own that is built upon the accumulated inputs of multiple actors. This is captured in the idea of *trajectories*, i.e., that industries evolve along particular trajectories by accumulating various adaptations over time. This is because paradigmatic worldviews are not just shared practices; they are also often embedded in the structure and organization of firms and whole industrial sectors (Freeman & Perez, 1988). Figure 25 below illustrates the notion of a trajectory of development of an industry (Geroski, 2003).

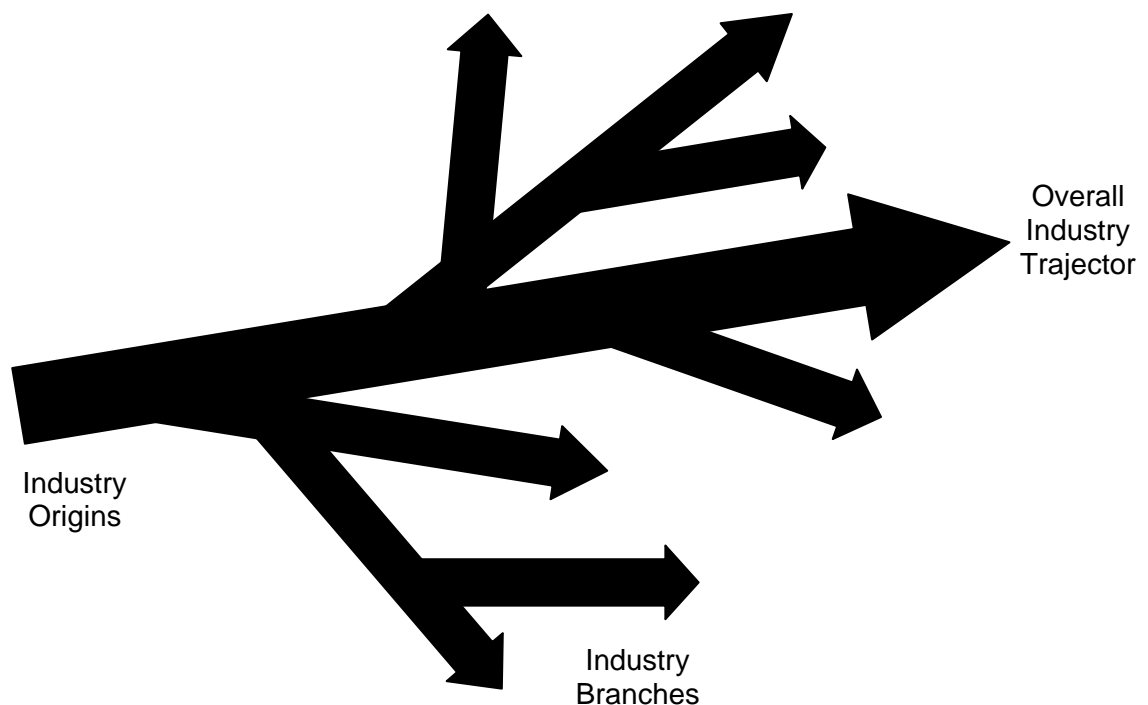


Figure 25. The Evolutionary Trajectory of an Industry

D. So What about the PM Protection Business? What Paradigm Is It Following?

Conventional wisdom on the PM sector traces the origins of the sector to the mercenary companies of the early modern period (Ortiz, 2007a; Singer, 2003). Indeed, one modern PMF probably justifies this history lesson: Executive Outcomes (EO). The problem with this history lesson is that EOs (as well as being defunct, a blip of the historical radar screen) and firms like it are a vanishingly small element of the PM sector. This raises the question of how typical EO is of the kind of firms and

activities performed at the “pointy end” of the spear. Our conclusion is that they are not at all typical; i.e., whatever the protection sub-sector is, in general, it isn’t what EOs typify.

Why does this matter? One way we make sense of the unfamiliar is by drawing on things that we know and seeing the unfamiliar in terms of partial likenesses to these more familiar artifacts. One thing serves as a mental model for another, and we understand, comprehend and make sense of the less familiar by way of analogies and metaphors from our mental model. To do this, we draw on certain attributes or entailments of the model and project them onto our target: the less familiar thing (Lakoff & Johnson, 1999).

In general, analogy works well in aiding comprehension. However, analogies are always partial and can sometimes lead us astray. If enough facts don’t fit, we eventually have to find different models and decide if they are more useful in helping us understand our target phenomenon.

We think this is perhaps true for the protective services element of the PM sector. Here, the historical analogy between mercenary companies and Executive Outcomes fits well; but if the EO doesn’t look like most of the protective services firms in our study, then neither does the mercenary company analogy fit well with most of the firms engaged in protective services in our study. Also, if we assume that most industries evolve (often fairly incrementally) out of previous ones, it’s hard to make a strong case for an evolutionary process that underpins the development, growth and trajectory of the PM industry using (by now ancient) mercenary companies as a starting point. Thus, the more and more we examined the issue of “where did the protective services business come from?”, the more the EO began to appear as an outlier in a larger evolutionary process that has not adequately been traced and understood.

This left us searching for a potentially more useful historical model—assuming there is one—that might help us better understand this sub-sector of the PM business. We began to search for clues that might generate a different

perspective on the paradigmatic origins of the private protective-services business. Some of the elements that have shaped our thinking have been the following:

- First, the structure of demand for PM services has historically been driven by several non-defense sources, as well as by the more widely recognized defense-related sources.
- Second, the major and most visible contracts between the public sector and protection firms came from the US State Department, not the DoD. Thus, the firms being employed on these contracts are not, in general, augmenting or substituting military manpower. Instead, they are augmenting and substituting security activities in other government departments; they are people whose job it is to secure various assets.
- Third, fundamentally the kinds of contracts and their parties ought to alert us to something: it is security and protection that is being outsourced, not the ability to project force.
- Fourth, when we study the kind of firms involved in protection services, we quickly find that it is very difficult to draw the line between unarmed and armed protection and very difficult to draw a clear line between the types of firms active in this sub-sector. For instance, Group 4 Securicor (G4S) has a large “special services” business that sells bodyguard services. The firm also conducts special security services for airports and public events. However, in G4S’s case, these services are bundled in with a portfolio of more mundane commercial security services, so G4S is not (in general) seen as a central player in the PM sector. Instead, it is seen more as a private security firm. In essence, G4S is a case of “sideways” entry into the protective services business. Looking at the kind of US firms offering protective services, many of these are sideways entries from other industries (for example, consider firms like Zapata Engineering and AGS).

This logic led us to the conjecture that it might be productive to investigate protective services as an evolutionary outgrowth of a private security industry paradigm; i.e., maybe protection services in Iraq and other hostile environments have been *co-opted* from everyday activities in the private sector and might, therefore, be thought of as outgrowths of protection services that are offered generically in the western world. This impression was reinforced when we examined the origins, evolution, growth and complexity of the worldwide private security industry (Kinsey, 2007). Figure 26 provides a figurative interpretation of the sector’s

evolutionary trajectory. (Note: this diagram is purely figurative, not data-driven, and is designed to be illustrative of our idea only.)

If, for a moment, we entertain this hypothesis, then we begin to see that the current protective services business (particularly the US-based firms, which account for half the industry) might be thought of as having deep roots in the domestic US security scene. To see this more clearly, we need to remember that the provision of security has been a joint public-private endeavor in the US since the country's founding (see Churchill (2004) for a historical review). Private protection of property and person has never been suppressed in the US to the extent that it was in many nations during the Twentieth Century. In other words, the US government has never completely monopolized the control of security, either domestically or internationally. (If anyone is in any doubt about this, he/she can consider the 5,000 Vinnell employees working on security-related tasks in Vietnam, or—domestically—the tradition of private detective agencies and bounty hunters chasing bail-jumpers.) Moreover, periods in which private security has been less utilized might be more a function of demand for services than supply; i.e., low levels of market activity mask the availability of various types of security services in the US, many of which are latent and available via the kind of sideways entry we have already discussed. In other words, an ephemeral market for protective services (latent and potential) has long existed in the US, but has sometimes been invisible because of demand conditions. By this reasoning, the current protective services market has always been there; it just has never before been co-opted by government agencies to work outside the US to the extent it is today in Iraq and Afghanistan.

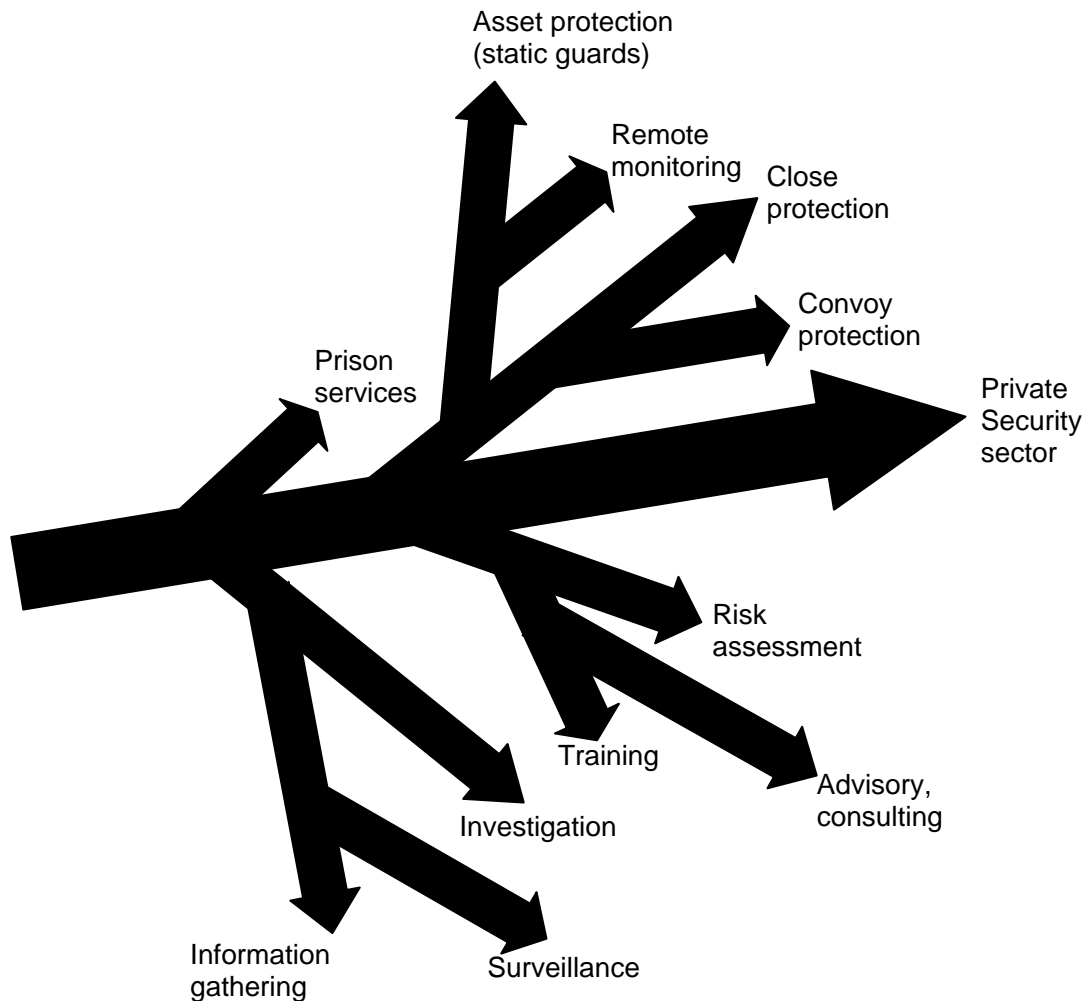


Figure 26. The Private Protection Business as Part of the Evolution and Growth of the Private Security Sector

By this reasoning, if we search for a firm that epitomizes the pointy end of the private military sector spear, we would perhaps see a firm such as the Pinkerton detective agency as a more appropriate model than the EO (Churchill, 2004). Consider the following parallels, for example. Blackwater—probably the highest profile PMF in the world—successfully handled Paul Brenner’s security in Iraq. In its heyday, Pinkerton successfully handled Abraham Lincoln’s personal security during the Civil War (though it was not responsible for his security, interestingly enough, when he has assassinated). Blackwater has performed a wide range of security guarding and private military contracting work both for branches of the US government (particularly the Department of State) and for the private sector.

Pinkerton performed exactly the same kind of services in its day for the Department of Justice (which hired the agency when it was founded) and the big business interests of its time (in particular, the railroads, which employed Pinkerton employees as railroad police). In 1892, while Pinkerton was employed by Carnegie in Pennsylvania, the *New York Times* remarked that, “The Pinkerton invasion of Pennsylvania looked like the work of a mercenary army” (cited in Churchill, 2004, p. f121). In 2005, as Blackwater employees wandered the waterlogged streets of post-Katrina New Orleans wearing various degrees of combat gear and touting M16s, they perhaps looked like a mercenary army.

Per our previous comments, such historical analogies are (by their nature) imprecise and may be misleading. Our point here is that it is not hard to trace an evolutionary lineage from Pinkerton to the protective security activities of contemporary PMFs such as Blackwater. Importantly, Pinkerton—despite at one point employing more agents than the US standing army—was always essentially a firm engaged in security-related services, up to and including pursuing the “bad guys” (in their day, Jesse James). They were not, in essence, mercenaries.

By this interpretation, the link between the protective services segment of the PM sector and state militaries seems rather tenuous and might need to be rethought. Mercenaries, after all, are substitutes for state militaries. But if private security firms are not best thought of as mercenaries, then this substitution—or this threat of substitution—does not hold. If so, at least some of the widespread anxiety of political scientists about the PM sector might be unjustified.

For a variety of reasons, we believe that the people who run PMFs may have a mental model of the sector that looks more like Pinkerton’s than a firm like Exective Outcomes. Perhaps their perspective is different; they fundamentally see the sector differently than how external analysts have often sought to portray it. If so, then how they perceive the activities of their own organizations may be very much at odds with how outsiders perceive these activities. This is to say, the inside view of the fundamental “recipe” of the sector is different (Spender, 1989)—in terms

of insiders' consensus about how business might be done, what customers really want, how firms (and individuals) can make money in the sector, and what the future holds.

If this is the case, we are reminded of Charles Fishman's bestselling book on Wal*Mart (Fishman, 2006); he argues that Wal*Mart's problems (in large part) stem from the fact that the firm is built around a particular culture. This culture constrains how Wal*Mart insiders see the firm. The consequence is that Wal*Mart managers just cannot see that the rest of the world perceives it differently. The inside view and the outside view are rather different. The result of these incommensurate perspectives is that insiders and outsiders are always slightly at cross purposes (Kuhn, 1962).

Clearly, to properly substantiate the model of the protective services business we have suggested here, we need to thoroughly understand the evolution of the private security industry—something we have not undertaken within this study. However, we believe there is enough evidence (for instance, the diversification of commercial security firms into the PM sector) and enough theory (for instance, institutional theory about how new fields are created out of old ones, how legitimacy is co-opted) to suggest this perspective might warrant further investigation.

List of References

- ArmorGroup. (2004). *Annual report*. Retrieved January 2008 from www.armourgroup.com
- ArmorGroup. (2007). *Interim report*. Retrieved January 2008 from www.armourgroup.com
- Avant, D. (2005). *The market for force: The consequences of privatizing security*. Cambridge, MA: Cambridge University Press.
- Avant, D. (2007). NGOs, corporations and security transformation in Africa. *International Relations*, 21(2), 143–161.
- Barney, J.B. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120.
- Churchill, W. (2004). From the Pinkertons to the PATRIOT Act: The trajectory of political policing in the United States, 1870 to the present. *The New Centennial Review*, 4(1), 1-72.
- Clinton, W.J. (2007). *Giving*. New York: Knopf.
- Coff, R.W. (1999). When competitive advantage doesn't lead to performance: The resource-based view and stakeholder bargaining power. *Organization Science*, 10(2), 119-133.
- Collier, P. (2007). *The bottom billion: Why the poorest countries are failing and what can be done about it*. Oxford: Oxford University Press.
- DynCorp (2007). *Annual report*. Retrieved January 2008 from www.dyncorp.com
- Donmez, E. (2007). *Mine Clearance Industry: Background, Geography, Funding, Analysis and Future Projections*. MBA professional report, December 2007, Naval postgraduate School, Monterey, CA
- Dosi G. 1982. Technological Paradigms and Technological Trajectories: A Suggested Interpretation of the Determinants and Directions of Technical Change. *Research Policy* 11(3): 147
- Drohan, M. (2004). *Making a killing: How corporations use armed force to do business*. Toronto: Random House.
- Fishman, C. (2006). *The Wal-Mart effect*. New York: Penguin.
- Fortune (2007). *Fortune 500 listings*. Retrieved January 2008 from <http://money.cnn.com/magazines/fortune/fortune500/>

- Freeman C, Perez C. 1988. Structural crisis of adjustment. In G Dosi, C Freeman, RR Nelson, G Silverberg, L Soete (Eds.), *Technical change and economic theory*. Columbia University Press: New York
- Geroski, P.A. (2003). *The evolution of new markets*. Oxford: Oxford University Press.
- Goodman, L.A. (1961). Snowball sampling. *Annals of Mathematical Statistics*, 32(1), 148-170.
- Hall, P.A. (1993, April). Policy paradigms, social learning, and the state: The case of economic policymaking in Britain. *Comparative Politics*, 25(3), 275-296.
- Human Rights First. (2008). *Private Security Contractors at War Ending the Culture of Impunity*. Retrieved January 2008 from www.humanrightsfirst.org
- Jager, T., & Kummel, G. (Eds.). (2007). *Private military and security companies: Chances, problems, pitfalls and prospects—A second essay collection*. Wiesbaden: VS Verlag.
- KBR. (2006). Annual report. Retrieved January 2008 from www.kbr.com
- Kinsey, C. (2007). Private security companies: Agents of democracy or simply mercenaries? In T. Jager & G. Kummel (Eds.), *Private military and security companies: Chances, problems, pitfalls and prospects—A second essay collection* (pp. 87-104). Wiesbaden: VS Verlag.
- Kuhn, T.C. (1962). *The structure of scientific revolutions*. Chicago: University of Chicago.
- Lakoff, G., & Johnson, M. (1999). *Philosophy in the flesh*. New York: HarperCollins.
- Mokyr J. 1990. *The Lever of Riches: Technological Creativity and Economic Progress*. Oxford University Press: New York
- Ortiz, C. (2007a). Overseas trade in early modernity and the emergence of embryonic private military companies. In T. Jager & G. Kummel (Eds.), *Private military and security companies: Chances, problems, pitfalls and prospects—A second essay collection* (pp. 11-22). Wiesbaden: VS Verlag.
- Ortiz, C. (2007b). The private military company: An entity at the center of overlapping spheres of commercial activity and responsibility. In T. Jager & G. Kummel (Eds.), *Private military and security companies: Chances, problems, pitfalls and prospects—A second essay collection* (pp. 55-68). Wiesbaden: VS Verlag.
- International Peace Operations Association. (2006). *State of the peace and stability operations industry survey 2006*. Washington, DC: IPOA.

- International Peace Operations Association. (2007). *State of the peace and stability operations industry*. Second annual survey. Washington, DC: IPOA.
- Singer, P.W. (2003). *Corporate warriors: The rise of the privatized military industry*. Ithaca, NY: Cornell University.
- Singer, P.W. (2007, September). *Can't win with 'em, can't go to war without 'em: Private military contractors and counterinsurgency*. Brookings Policy Paper Number 4. Washington DC: Brookings Institute.
- Spender. J.C. (1989). *Industry recipes*. Oxford: Blackwell.
- Teece, D.J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509-533.
- Tertzakian, P. (2007). *A thousand barrels a second: The coming oil break point and the challenges facing an energy dependent world*. New York: McGraw Hill.

THIS PAGE INTENTIONALLY LEFT BLANK

2003 - 2008 Sponsored Research Topics

Acquisition Management

- Software Requirements for OA
- Managing Services Supply Chain
- Acquiring Combat Capability via Public-Private Partnerships (PPPs)
- Knowledge Value Added (KVA) + Real Options (RO) Applied to Shipyard Planning Processes
- Portfolio Optimization via KVA + RO
- MOSA Contracting Implications
- Strategy for Defense Acquisition Research
- Spiral Development
- BCA: Contractor vs. Organic Growth

Contract Management

- USAF IT Commodity Council
- Contractors in 21st Century Combat Zone
- Joint Contingency Contracting
- Navy Contract Writing Guide
- Commodity Sourcing Strategies
- Past Performance in Source Selection
- USMC Contingency Contracting
- Transforming DoD Contract Closeout
- Model for Optimizing Contingency Contracting Planning and Execution

Financial Management

- PPPs and Government Financing
- Energy Saving Contracts/DoD Mobile Assets
- Capital Budgeting for DoD
- Financing DoD Budget via PPPs
- ROI of Information Warfare Systems
- Acquisitions via leasing: MPS case
- Special Termination Liability in MDAPs

Human Resources

- Learning Management Systems
- Tuition Assistance
- Retention
- Indefinite Reenlistment
- Individual Augmentation

Logistics Management

- R-TOC Aegis Microwave Power Tubes
- Privatization-NOSL/NAWCI
- Army LOG MOD
- PBL (4)
- Contractors Supporting Military Operations
- RFID (4)
- Strategic Sourcing
- ASDS Product Support Analysis
- Analysis of LAV Depot Maintenance
- Diffusion/Variability on Vendor Performance Evaluation
- Optimizing CIWS Lifecycle Support (LCS)

Program Management

- Building Collaborative Capacity
- Knowledge, Responsibilities and Decision Rights in MDAPs
- KVA Applied to Aegis and SSDS
- Business Process Reengineering (BPR) for LCS Mission Module Acquisition
- Terminating Your Own Program
- Collaborative IT Tools Leveraging Competence

A complete listing and electronic copies of published research are available on our website: www.acquisitionresearch.org

Initial Distribution List

- | | |
|---|---|
| 1. Defense Technical Information Center
8725 John J. Kingman Rd., STE 0944; Ft. Belvoir, VA 22060-6218 | 2 |
| 2. Dudley Knox Library, Code 013
Naval Postgraduate School, Monterey, CA 93943-5100 | 2 |
| 3. Research Office, Code 09
Naval Postgraduate School, Monterey, CA 93943-5138 | 1 |
| 4. Bill Gates
Dean, GSBPP
Naval Postgraduate School, Monterey, CA 93943 | 1 |
| 5. Nicholas Dew
Assistant Professor, GB
Naval Postgraduate School, Monterey, CA 93943 | 1 |
| 6. Bryan Hudgens
Lecturer, GB
Naval Postgraduate School, Monterey, CA 93943 | 1 |

Copies of the Acquisition Sponsored Research Reports may be printed from our website www.acquisitionresearch.org